CHAPTER II

REVIEW OF LITERATURE

The conceptual framework used in the study of contraceptive use is shown in Chapter-I. The factors influencing contraceptive use are broadly classified as social-setting factors, programme effort factors, and outside-programme effort factors. Success of programme effort factors largely depends on their impacts and interrelationships with individual social setting factors and other non-programme factors. Social-setting factors include socio-economic, cultural, psychological, and demographic factors. The programme effort factors include availability and accessibility of services and supplies, knowledge of health functionaries, training received by functionaries, extent of supervision and monitoring work done, IEC and social communication activities carried out, record and evaluation work done and quality of health delivery services. Outside-programme effort factors include horizontal linkages with other departmental activities, involvement of NGOs and participation of community leaders.
A number of studies on factors influencing contraceptive use or non-use have been done at national and international levels. However, in many of the studies which are based on surveys, the sample size had often been small and also quality of data differs from one country to another country. Yet, to obtain a better understanding of the inter-relationship between contraceptive use and various factors there is a need to look into findings of such studies in developing and developed countries. In this context, this chapter provides a review of literature on contraceptive use. Studies are arranged under the three categories as mentioned earlier.

2.1 Social-setting factors

The social setting factors include variables like place of residence, educational level, religion, caste or tribe of women etc. It also includes the economic variables like work status of women and standard of living, and the demographic variables like age of women, number of children, number of living sons, loss of any child etc. Several studies have been conducted in an effort to identify the importance of social and psychological factors in attitudes toward fertility control.
According to The study of Bergues and Sutter (1967), when any population problem is studied behavior differs in accordance with three types of factors encountered which are 1) biological factors (sex, age, mental condition); 2) socioeconomic factors (occupation, income, wage or salary, housing); and 3) cultural factors (level of education, religion, ethnic origin). The authors mentioned that age is a factor whose influence has been most important. It affects the desired number of children, the actual number of children, the use of contraception and the contraceptive method used, acceptance of legally or illegally induced abortion, sterilization, and actual or possible acceptance of oral contraception. The mental condition of the individual also plays an important role. Among the socioeconomic factors, occupation has an important role. Contraceptive practices have been found to vary in a more or less uniform manner according to occupation.

Wallache and Garcia (1968) explored emotional factors associated with the use of oral contraceptives among women. Among the factors influencing the adoption of contraception are reported as attitude toward sexuality, feelings about avoiding pregnancy, fears about future fertility etc. Apprehension over potential side-effects and the information a woman receives from her doctor, peers, and the media played a role in her ultimate emotional response.
The technique of multi-sort analysis was done by Hall and Reinker (1969) to compare the relative duration of use of oral and intrauterine contraception among low socioeconomic groups in Baltimore City. The clinical records of over 12,000 women who had received contraceptive methods through the Baltimore public services were analyzed. The analysis showed that woman's age, race, and how long she had been using the method influenced the probability of continuation of contraception. Women age 25-34 were more likely to continue either method. In general, whites had a slightly lower probability of continuing a method than nonwhites.

Lapham (1970) attempted to explain the factors influencing the downturn in Tunisia's birthrate during 1967-68. The study attributed that one-third of the decrease to Tunisia's family planning program which began in 1964. Two other majors factors are 1) fewer women in peak reproductive ages and 2) changes in the social status of women resulting in late marriages.

Based on 1964-65 survey data in Latin America CELADE and CFSC (1972) examined the extent to which knowledge of family planning has been put into practice among the population. Parity, socioeconomic status,
generational change, religiosity, and modern outlook on family life were the variables influencing or promoting the use of contraception. Each of the factors exerted a significant effect, independent of the others. As family size increased where socioeconomic status was high, the tendency to practice family planning was greater. Younger women were more inclined to use contraception than older women when the factor of parity was controlled. More religious women were less inclined to practice family planning; whereas women with a modern outlook were more inclined towards the use of contraception.

In a study which was conducted in East Java, Pardoko (1973) tried to determine the factors influencing the choice of contraceptive method by acceptors in East Java. From the results of the field interviews positive and negative correlations were determined for each factor. For oral contraceptives the most important factor in the decision to accept was the level of living of the woman and the level of education of the husband. The greater these two levels and the greater the women's understanding of family planning, her family's level of living, and her knowledge of the existence of clinic facilities, the more likely she was to choose oral contraception. For IUDs the most important factors were knowledge about the device, level of education of the woman and her
husband, and the kind of person who explained the method and persuaded the woman to use the device.

Floge (1973) explored the discrepancy between ideal and actual family size in India. Indian men or women who have vasectomies or IUDs often express economic motives. The study stressed that two conditions must be met before contraceptive use is probable: 1) the parents must be able to perceive the connection between their economics and family size and 2) the individual must feel that he has control over his environment and his own life. Subjective efficacy is positively correlated with favourable attitudes to the use of birth control.

Verbruggje (1973) studied social, demographic, and communication characteristics of 5457 women age 15-44 practicing family planning in West Malaysia in 1966-1967 to identify the factors influencing contraceptive adoption and program enrollment. Characteristics of users were seen as urban background; higher socioeconomic status and level of education; higher number of children, more favourable attitudes among husbands, kin and peers, more verbal communication about family planning and more contact with mass media family planning messages. However, the author cautioned that in using these differentials
to identify causal factors influencing adoption demand; multivariate statistical procedures should be used and further analysis was necessary to determine whether communication and peer use affect contraception adoption as do social and demographic characteristics.

The Calcutta Fertility Survey of 1970 (ISI, 1974) produced information on fertility and family building patterns for populations differing in social, economic, and demographic characteristics. Findings indicate that the general educational level of married women is the most important variable in influencing fertility behavior and practice of family planning. Slum women had larger families because their educations were at a lower level. Literate women were shown to prefer temporary contraceptive methods, whereas illiterates favoured sterilization. It was recommended that sex education be given early in school and motivation for family planning begin with early stage of marriage. Extension family planning service will be more successful than clinical practice. It is emphasized that general socioeconomic development is necessary if family planning is to succeed in lowering birthrates.

Based on data from two rural Pakistan villages of about 1000 people, DE Vries (1974) tried to determine the relation of relevant cultural and socio-
psychological factors to birth control practice. The author mentioned that education was probably the single most important force directly influencing family planning behavior. Birth control as a health measure appeals far less to men than to women. Familiarity with people who use contraceptives or provide family planning advice seemed of fundamental importance in spurring favourable decisions about birth control. Communication between husbands and wives about sex were rare; where they existed, attitudes were favourable to birth control. Individual, rather than community modernity seemed a strong predictor of family planning behavior. The study recommended that rural family planning programs should concentrate on modern individuals from various types of communities.

Koo (1975) observed the influence of Taiwanese couples' background, lifestyle, and demographic characteristics on selecting family planning options. A series of path analyses using a linear recessive model with one-way causation were employed to measure the data. It was generally found that the wife's education level, the year of marriage, the husband's employment, and the months to fourth pregnancy had important effects in the decision to use a method of fertility control.
A benchmark survey of fertility and family planning was carried out in Uttar Pradesh (Bhattacharya and Sharma, 1976). The various factors which influence the birth interval and the use of contraception were considered as the socioeconomic factors of education, household income, occupation, religion, social practices etc. The study suggested that gains in birth control will come through an increased job market, better education for women, and delayed age at marriage as well as improved family planning programs.

Fraser (1977) observed that a significant factor influencing China’s successful population limitation effort has been the elevation of the status of women. This extends to attitudes towards female children in that now the mother is encouraged to look favourably on female offspring. Regarding contraceptive practice, women in both rural and urban areas are acceptors of IUDs, oral contraceptives, and tubal ligation. Men in urban areas use the condom freely, but in the rural areas, men are more reticent and conservative. Very few males have vasectomies. Generally, the decision on birth control methods is left to the individual couple.

Tanis (1977) provided reasons for improper or nonuse of contraceptives and these fall into three basic categories - cultural, social, and
educational forces; conflicting priorities; and subconscious motivation. Many of the reasons for improper or nonuse of contraceptives are mentioned as subconscious. The author mentioned that cultural, social, and educational forces influencing improper or nonuse of contraceptives include poverty, ignorance, fear and anxiety, shame and embarrassment. Conflicting priorities influencing the improper or nonuse of contraceptives include denial, guilt, excitement due to risk, spontaneity, loneliness, crisis/pressure, hostility, and the availability of abortion. Included under the category of subconscious motivation are uncertainty in a relationship, sense of loss or grief, coital gamesmanship, sexual identity conflicts, masochism, opportunism, nihilism, and ambivalence. The attitudes of nurses, physicians, and social workers offering the services are very likely to influence whether individuals accept or reject family planning services. The study stresses that this strategy attempts to modify, influence, persuade, and manipulate through a change agent such as the nurse who works to strengthen the individual's self-awareness, self-understanding, and self-control.

Barnes (1977), while discussing social concerns in fertility control mentioned that education is a major social concern that is pertinent to contraceptive use. According to him although education alone will not solve all problems, at all levels of motivation education improves
contraceptive use. In the demand-supply sequence, education creates demand. Like other social concerns it largely exerts its leverage by influencing desired family size. The author emphasized that the role and status of women needs to be one of the continuing social concerns, with particular emphasis on the opportunity for women to enter the labor force. The author argued that universally, the opportunity for women to work outside the home has been found to improve contraceptive practice and reduce desired family size.

A conceptual model for predicting family planning behavior is studied by Kar (1978) in Venezuela. The author found that perceived social support, attitude toward personal use of contraception, and subjective accessibility of services were the best predictors of family planning behavior, accounting for about 94 percent of total variance of ever-use of contraception. The author stressed that when all 3 of these variables are favourable, family planning use will be highest, and it will be lowest when all three are unfavourable. Social support was mentioned as the greatest single influence. Study results imply that a strategy aimed only at increasing accessibility of services is unlikely to promote family planning acceptance among the majority. Multiple points of intervention, in which access coexists with high levels of favourable attitude and/or social support are needed.
While talking about worldwide success of voluntary sterilization Davis (1979) noted that religious and legal aspects influencing the acceptance of voluntary sterilization are not posing a serious barrier to establishment of services in most places. Cultural factors which may affect acceptance or determine the preference for female over male procedures are briefly described in the study.

The First Bangladesh Fertility Survey (Rahim, 1980) identified pronounced differentials in contraceptive use according to type of residence, education, and desire for future children. The study tries to assess the magnitude of the effect of these variables on contraceptive use. Covariates considered in the study were number of living children, age, and age at first marriage. Background factors considered were place of residence, wife's education, husband's education, desired versus achieved family size, and future births wanted. The combination of place of residence and wife's education was proved to be the most important determinant of current use of contraception; even after considering for family size, age, and age at marriage. The study mentions that the desire for birth spacing may be influencing use of contraception, and that contraceptive use would increase with better availability of adequate services and supplies.
An exploratory multiple regression study of socio-economic determinant of family planning practice based on 23 countries was done by Rao and Yuan (1980). The factors considered are the percent urban to total population, male and female life expectancy, GDP per capita, population/physician, population/hospital bed, adult male and female literacy, current user rates, average total funds, and family planning program personnel and facilities. The results confirmed that the male literacy rate for 15 years and older, GDP/capita in U.S. dollars, and the number of years for which government-supported family planning programs have been in operation are the set of independent factors influencing the prevalence of contraceptives as indicated by the current user rate.

The importance of interspousal communication on the practice of contraception was mentioned by Bhatia and Neumann (1980). They mentioned that the communicating spouses had a higher level of contraceptive use at every level of age, education, income, actual and desired family size, as well as among the occupational, religious and residential groups. A stepwise multiple regression with family planning practice as the dependent variable and interpersonal communication, age, education, income, residence, number of surviving children and ideal number of children as independent variables showed interspousal
communication to be the most important variable influencing the practice of family planning.

Factors influencing the demand for contraception are examined by Mertaugh (1980). In this an attempt was made to study empirical relationships on determinants of demand for contraception and fertility. Several variables are considered in the empirical evidence which appear to be important determinants of demand for children and, in turn, birth planning. The five variables considered are education, female employment, income and its distribution, infant and child mortality, and urbanization. The diversity of findings on factors influencing demand for children and contraception provide the basis for conclusions as to the likely effect of changes in certain policy areas. These include the following: 1) improvements in general education are likely to result in further fertility declines and further expansion of contraceptive use in countries which already have achieved some success in education and contraceptive use; 2) the creation of female employment may result in some reduction in demand for children and some increase in contraceptive use, particularly in urban, institutional employment; 3) the effects of income generation on fertility may differ importantly depending upon the country's initial levels of income and fertility and the form which income generation takes; and 4) the short term effect of improved infant
and child survival in these countries is likely to be more rapid population growth.

Baum (1980) investigated couple consensus at various stages of the decision process with respect to contraception, and examined socioeconomic and demographic factors influencing husband and wife decisions about contraception. The analysis was conducted by examining contingency tables and the multivariate model using binary regression. Results of the study showed that economic and socio-psychological costs were more important for the men; results concerning opportunity costs were inconclusive. Variables concerned with number of living children and spousal communication appeared to be important. Wives' use of contraception did not depend on desire to use and this could indicate the dominance of husbands in the realm of family planning.

Social-psychological and communication factors in discontinuance of birth control use in the Dominican Republic was studied by Porter (1980). The study utilized the diffusion of innovation framework to construct a model which includes both socio-demographic variables and social-psychological variables. A model was developed by the author to test
for the direct and indirect effects of attitudes and communication on discontinuance. The study explored that of women were using birth control to space their children and that discontinuance is encouraged by having nonsupportive husbands, high parity, and method problems. It appears that considerations of current and projected family size are operative even during the initial period of use. The primacy of husband’s positive communication about birth control in influencing discontinuance forms the basis for recommending that discontinuance might be decreased if the husband’s participation in family planning programs were increased.

Using 1974 Malaysian Fertility Survey data, Tan (1981) identified important variables, which have a significant impact on fertility behavior in Peninsular Malaysia. In the study wife’s education was found to significantly explain the current age and use of contraceptives relationship. Among other variables the level of education of wife, income of husband, and the place of residence were all found to be significant.

The 1979 Egyptian Rural Fertility Survey (Egypt, 1982) which focused on marriage, fertility, family planning and considered both behavioural and
attitudinal did not find any clear relationship between attitudes and practice. Many women do not try to put into action in a positive way their attitudes toward fertility through contraceptive use. The educational level appeared to be one of the most important variables influencing consistency between attitudes and practice.

Based on 11,230 currently married women from the 1979 Korean Contraceptive Prevalence Survey, Park and others (1983) explored the causal relationship between current contraceptive use and six explanatory variables. The study found that age and number of contraceptive sources known had no effect on contraceptive use among high risk women. Education was found to be the most important factor in contraceptive use, appearing in the best fit model for every method (permanent, reversible, other) in both rural and urban areas. Number of living children was an important determinant in the use of all contraceptive methods in rural areas, but was not a factor in urban areas. The study admitted that that other factors not included in this analysis, especially family size norm and son preference, may also affect contraceptive use.
Based on data from the World Fertility Survey projects in Nepal, Bangladesh, and Sri Lanka, Tan (1983) evaluated the evidence for the existence of a social custom believed to be important in influencing the fertility of older women in traditional societies. The author tested the hypothesis is that such a change in familial status leads to reduction in marital fertility. The author attempted bivariate and logit regression analyses to test the hypothesis. The empirical findings indicated that there is evidence for existence of a grandmother custom in Nepal, Bangladesh, and possibly in Sri Lanka. In Nepal, where contraception is not used, the reduction in fertility associated with becoming a grandmother is presumably effected through terminal abstinence. In Bangladesh the analysis suggests that contraceptive use is probably unaffected by grandmaternal status, which indicates that sexual relations cease when a woman becomes a grandmother. The regression results for Sri Lanka show weak support for existence of the custom.

In the Contraceptive Prevalence Survey (CPS) which was conducted in Indonesia in 1982-83, Utomo and others (1984) tried to identify factors influencing the contraceptive prevalence in urban areas and also to ascertain various communication channels for conveying family planning program messages. The study mentioned that the rate of contraceptive use increased as age increased up to 35 years, then declined except for
female sterilization and the rhythm (calendar) method; the prevalence of contraceptive use was highest among women aged 20-24 years. Television was reported as the most commonly used media for family planning programme messages.

Condelli (1984) examined social psychological models available to explain contraceptive behavior. The study revealed that each component of the model (effectiveness, convenience, side effects, support, susceptibility, and severity) had a direct effect on either intention or behavior, but method convenience and susceptibility to pregnancy were the variables most consistently influencing contraceptive use. Little correlation was noted between intention and behavior. The study suggested that while counseling clients contraceptive educators should pay particular attention to perceived susceptibility to pregnancy, method convenience, and subjective-normative support.

Kanyiri (1984) examined the relationships between socioeconomic and demographic variables and current contraceptive usage among Kenyan women age 15-50. The study utilized both path analysis and multiple regression to determine the direct and indirect effects of selected predetermined variables on contraceptive behavior of currently married,
fecund, and nonpregnant women. Results demonstrated that the number of living children, ethnicity, women's occupation, and husband's occupation have significant direct effects on contraceptive use, while accessibility is shown to have the strongest direct effect on contraception. Education is shown to influence contraceptive behavior through other intervening variables such as woman's occupation, living children, and accessibility. It is argued that the relationship between fertility preference and contraceptive use is significant particularly in the study of unwanted fertility and unmet needs for contraception. The study concluded that policymakers ought to determine the demographic and contraceptive needs of different subpopulations in order to formulate better strategies relevant to these groups.

In a study by Gao and Gu (1984) in Shanghai City in 1981, the authors observed that factors influencing the fertility rate include birth control policy, education, occupation, attitude towards children etc.

In a study by Srivastava and others (1985), authors tried to determine fertility, family size preference, and family planning practice among white collar workers of the Uttar Pradesh (India) government and to understand the sociocultural, economic, and demographic factors influencing them.
The study concluded that the approval rate for family planning methods in general varied positively with socioeconomic status of the white collar workers. Majority of the white collar workers approved of sterilization.

In a study (Nigeria, 1985) which was designed to determine attitudes and ideas about family size and family planning in the Kwara State, Nigeria, it was indicated that religious belief, some old traditions, and illiteracy were the main factors influencing the attitudes about family size and family planning, and any family planning policy must take these findings into account. The study mentioned that radio and television programs should be given higher priority in any program to disseminate information due to the high percentage of illiteracy among the population.

Khan and Gupta (1985), based on 1980 all-India level family planning study of 40,000 couples examined motivational factors influencing family size and acceptance of family planning methods in India. Reasons for acceptance of family planning were given as perceived economic benefits, religious and social influences, support of parents in old age, continuity of family name, and tradition. The authors concluded that in India "the economic value of children still seems to be very high, more so when referred to rural India." The authors cited similar findings from Korea,
Taiwan, Japan, the Philippines, and Thailand on factors influencing family size and maintain that the economic costs of children are instrumental in motivating people to use contraceptives.

Shanawany (1985) while studying sociocultural factors influencing family planning in Egypt referred that ever and current use of contraception vary by almost all socioeconomic variables, including region of residence and level of both wife's and husband's education. With control for all of these factors, statistically significant and large regional differentials persist. The author observed that Egypt's population and family planning policy has evolved gradually from a traditional clinical approach in the mid-1960s to a socioeconomic approach to fertility reduction in the early 1970s to the present-day development approach to the population problem or a national policy and program that extends beyond family planning.

Findings from a baseline survey (Bertrand et al, 1985) of 2500 women ages 15-49 years, conducted in an urban (Matadi) and rural (Songololo) area of Bas Zaire before the introduction of organized family planning programs, indicated widespread use of traditional methods of contraception and an unexpectedly high level of knowledge of modern
methods. The contraceptive practice was noted lower among women who had weaned their infants, suggesting that motivation to use contraception is related to child spacing or avoidance of breast milk contamination rather than family size limitation. Further the study revealed that use of traditional and modern methods is motivated by different factors. Prime determinants of use of a traditional method of contraception were age of youngest child, breastfeeding status, and economic status. By contrast, use of a modern method was affected by breastfeeding status, educational level, number of children, age of youngest child, and economic status. It appears that use of traditional methods reflects a desire to avoid another pregnancy during breastfeeding, whereas use of modern methods represents a reaction of women of higher economic status to increased levels of parity.

Factors influencing household fertility decisions in four southwestern states of Nigeria were examined by Farooq (1985) in a multiple regression analysis using data collected in the Western phase of a national household fertility, family, and family planning survey. Numerous sociocultural and biological factors were included in the model. The study confirmed that sociocultural and biological factors as well as economic variables influenced fertility in Nigeria. A number of biological and cultural factors prevented many Nigerian women from reaching their desired...
family size. The study documented that couples who were able to reach their desired family size had positive attitudes toward contraception. As desired family size declines through increased education, and as improved health services decrease the infant mortality rate and improve natural fertility, more couples will be able to attain desired family size. When this occurs, contraceptive use is likely to increase.

Gordon and Abrams (1985) examined political and religious factors influencing birth control, ethical considerations for physicians, and special ethical issues of sterilization and abortion. The authors mentioned that physicians today face many ethical questions. Fertility control was influenced by the Old Testament. Interdiction of contraception is based on statements in Genesis and Deuteronomy as well as the command given to Adam and Eve to be fertile and multiply. Judaic tradition has evolved without any strong prohibition against contraception. Abortion is prohibited except to save the mother’s life. Catholicism maintains that the primary purpose of coitus is for procreation and officially does not approve of ovulation suppressants nor of abortion. Early Protestantism was anti-contraception but by 1930 the Anglican Church officially recognized the use of birth control as acceptable within the marital relationship. The position of Islam is that all is preordained, and therefore any contraceptive practice is permissible if it has the possibility of failure or
success. Birth control is permissible but not recommended. In Hinduism there are no moral or religious objections to birth control but abortion is considered sinful.

Sathar (1986) concluded in a study of women's status and fertility in Pakistan that the education of females is undoubtedly an extremely good indicator of women's status. The reason for this is thought to lie in the fact that education increases awareness and control over decisions but also because educated women are likely to come from backgrounds where men and women are not regarded very differentially. Regarding work participation of women, more information than just occupational status is needed to capture fertility differentials in Pakistan. In the case of residence urban residence was associated with lower fertility desires and higher contraceptive use and knowledge.

In a rural Egyptian study, Schutjer and others (1986) observed that women who perceived relatives to be using contraception were more likely use contraception themselves. Similarly, women who reported ever discussing family planning with their husbands were more likely to be current users. Further, the author observed that land ownership, cultivating status of the household and educational expectations for
children were significantly related to current use. Strength of motivation, although significant, was less strongly related to use of contraception. The findings suggest women who want no more children, but who are not practicing contraception, are affected by factors influencing both the costs of contraception and the costs of an unwanted child.

Lewis (1986) found that lowering prices of contraceptives increased the quantity of distribution.

Using World Fertility Survey data of the year 1978 in rural Bangladesh, Ahmed (1987) examined the mechanism of the demand for children, supply of children, and cost of fertility regulations influencing the likelihood of contraceptive use. The study mentioned that age at first birth, second birth interval, secondary sterility, and child mortality reduced the likelihood of contraceptive use. The distance to family planning clinic was the only cost of regulation variable which consistently showed a negative effect on the likelihood of contraceptive use. The effects of most of the supply of children variables and the demand for children variables remained the same even after controlling for socioeconomic variables.
The 1987 National Survey of Maternal and Infant Health of Guatemala (Owens, 1988) indicated that education played a major role in influencing contraceptive acceptance.

Using the 1982 Chinese fertility survey data for Hebei province of China, Wang (1988) examined contraceptive behaviour in China. The analyses of current contraceptive behaviour show that the usually potent socioeconomic variables affecting fertility were no longer effective in influencing individuals' decisions to use contraceptives around 1982, when the government family planning program reached its apex. Government policy, although powerful enough to override most of the effect of socioeconomic factors on fertility, was not able to eliminate differences in contraceptive behavior among Chinese women. Women are still trying their best to achieve their desired numbers and sex composition of children. The author argued that variables such as the number and the sex composition of the children these women already had are much more important than socioeconomic variables in explaining the existing small variations in contraceptive use.

A large number of socio-economic variables like education, rural or urban residence, the roles and status of the wife within and outside the
family, age, age at marriage, and family size play important role regarding performance of the programme (Srikantan, 1989; Srikantan et al., 1988).

Florez (1989) studied women's status indicators, such as educational attainment and labour force participation, as well as other socioeconomic variables which are considered influencing the family formation transitions over the life course. The analysis utilized data from the Bogota Longitudinal Survey and from the Rural Longitudinal Survey conducted by the Centre of Studies in Economic Development of Los Andes University, Bogota, Colombia, during 1984-1987. The author used proportional hazards life-table models. The study mentioned that urban and rural women in all strata have obtained their smaller family size through the use of birth control. Urban women use birth control to space birth in the process of obtaining a smaller family size. Rural women used it once they have obtained a smaller family size. Education in most circumstances reduces fertility. Urban and rural results showed the evidence that the depressing effect does not appear until higher levels of education are reached.
A survey (Riphagen and Lehert, 1989) was conducted in 1984-1985 of 7,696 women age 15-44 years and living in Italy, France, Great Britain, Spain, and the Federal Republic of Germany. One of the several objectives was to obtain new information on contraceptive use and to detect the influence if any, of demographic and socioeconomic factors on contraceptive use in these five countries. The study mentioned that education was still an important factor affecting attitudes and practice in Italy and Spain but not (any longer) in the other three countries.

Oheneba-Sakyi (1990) analyzed data from the Ghana Fertility Survey of 2001 married women in 1979-1980 and attempted logistic regression to determine the factors influencing contraceptive use. The study showed that factors positively significant for contraceptive use were younger women, married at age 20 or older, education, professional occupations, protestants, urban residence, southern residence, desire fewer children. Factors negatively associated with contraception were agricultural work, non-Christian religion, both traditional and Moslems, desiring more children and living in the north.

Sundar (1990) investigated to examine the effect of education and occupation on contraceptive behavior based on the survey which was
conducted by the National Council of Applied Economic Research in a large resettlement colony in East Delhi. The study suggested that women who are illiterate or have a low level of education are less likely to engage in innovative behavior like use of innovative contraceptive method. Additionally, education decreases the demand for children and reduces the desired family size. The author also pointed that the relationship between educational status and demand for children is supported by the findings in two national sample surveys that were conducted in 1970 and 1980. The link between husband-wife communication and contraceptive use is discussed but thought to be weak. A significant relationship was found between employed and family planning in the case of women who work as domestic servants. Domestic servants were found to be more motivated to use birth control because of a greater incompatibility between job and childbearing and greater exposure to the benefits of a small family.

Low (1990) studied factors influencing condom acceptance based on data of condom-acceptor cards during 1981-1987 at the General Hospital in Kuala Lumpur, Malaysia. The author identified that age of wife, duration of marriage, number of living children, wife's level of education and socioeconomic status were identified as factors influencing condom acceptance. Age of wife had a significant influence on the use of
condoms as contraception. A very significant relationship also existed between condom use and duration of marriage and number of living children. Significant differences were observed between groups in higher socioeconomic status and higher level of education. With seven or more years of education, a significant proportion of condom-acceptors used condoms as a first method of contraception as compared to those who used it as a subsequent method of contraception. For the higher socioeconomic, a significant number of acceptors used condoms as a first method of contraception.

St. Hill (1992) examined and described the major factors influencing the acceptance and use of existing family planning services by the Haitian population. Study findings indicated both limited and inconsistent use of family planning services by this population. The four major reasons determined for these findings relate to the group's a) cultural views on fertility and childbearing, especially the group's fatalistic perception and value of children as "gifts from God"; b) negative views and attitude toward modern contraceptive use; c) lack of contraceptive knowledge; and d) perceived barriers to accessing community services.
To know about breast feeding as a contraceptive method Rao (1992) analyzed 1976-77 Family Life Survey data of 1,092 women 15-50 years old living in Malaysia. The analysis reported that most women (62 percent) believed that it was difficult to conceive while breastfeeding. Knowledge about the contraceptive effect of breast feeding did not affect either the duration of breast feeding or contraceptive use. Yet, education did play a significant role in the oral contraceptive use. Moreover, younger women were more apt to use oral contraceptives than older women. The author remarked that modernization as evidence by the relationship between education and age with oral contraceptive use was most likely the reason for the decline in breast feeding and the increase in contraceptive use. Evidence after the survey indicated that the decline in breast feeding had slowed and had even increased. Therefore, modernization appeared to be influencing both an increase in breast feeding and in contraceptive use.

Nguyen et al. (1992) used data from the 1988 Vietnamese Demographic and Health Survey of 4,172 women and the 1990 Study of Accessibility of Contraceptives of 2,868 rural women of Vietnam to determine how certain characteristics of women and characteristics of their communities affected current use of modern contraceptive methods. The authors found that no significant difference in modern contraceptive use
between urban and rural women. Women with primary or higher education were significantly more likely to use a modern contraceptive than women with no formal education at all. Further women probably gained from health education material about the benefits of family planning and material about the economic benefits of smaller families. Women who lived in areas with high infant mortality rates tended not to currently use modern methods.

Considering statewise information of India on family planning and socio-economic variables, Dwivedi (1992), Dwivedi and Pandey (1986), Pathak and Prasad (1976) found literacy played an important role in motivating couples for accepting sterilization. Per capita income is found as most dominant variable influencing IUD insertions and use of conventional contraceptives.

Steele and Diamond (1997) examined individual, community, and district factors influencing women to continue or discontinue the use of a contraceptive method in Bangladesh between 1993 and 1994. Women with few children were less motivated to continue contraception. Pill users who had at least secondary-level education had an increased chance of switching to a traditional method. The rate of switching to nonuse while
still in need of contraception was greater for Muslims than for Hindus for any type of modern method.

Mahmood (1997) studied gender differences in reproductive control behaviour in Pakistan. Among couples who differed in their fertility desires, the use of contraception was higher among those of whom only the husband wanted no additional child than among those of whom only the wife wanted to stop childbearing. Couples of whom both spouses approved of family planning used contraceptives in more proportion compared to those who disapproved it. Contraceptive use was the highest when both spouses wanted no more children and had 4-5 living children, and 1 or 2-3 living sons respectively. Where only the husband wanted no more children, the couples' practice of contraception was the highest at parity 0-3 and 2-3 living sons. This supports the greater influence of husbands' fertility and son preferences on initiating contraceptive use. The author mentioned that couple relations with respect to fertility attitudes played a greater role in influencing reproductive control behavior in Pakistan than did their age or achieved parity.

Berhanu and Hogan (1997) examined the relationship between women's status and contraceptive use in Ethiopia. Data were obtained from the
1990 National Family and Fertility Survey among 1758 ever married women age 15-49 years. Women's status is measured by women's education, employment status, and spousal communication concerning family size. The analysis included a variety of controls and three different hierarchical models. Findings indicated that women's education, employment status, and spousal communication were key factors influencing current contraceptive use. Current contraceptive use was about 37 percentage points higher among primary educated women compared to uneducated women. Use was significantly higher among working vs. nonworking women. Contraceptive use was at least 27 percentage points higher among women who discussed family planning with spouses compared to those who did not. Women in younger marriage cohorts were more likely to use contraception. Lower levels of contraceptive use were found among women age 35-49 years, women with no living children, women who had not achieved desired family size, and among Muslims, Oromos, and Gurages. Logistic models revealed that higher female education, employment, and spousal communication significantly increased the likelihood of current use of traditional and modern methods. Women's education had the strongest impact. The control variables that partially explained use were marriage cohort, husband's education, economic status, and place of urban residence. Findings suggest that new cohorts of women are advancing the diffusion
of family planning practices, and urban use is mainly for stopping childbearing.

Among the psycho-social problems amenable to solution by family planning programme is social distance, which occurs when clients and providers are of different ages, classes, castes, or ethnic groups (Cospin and Vernon, 1997; Huntington et al., 1990).

Freedman (1998) mentioned that socio-economic change was rapid in the 23 years between 1961 and 1984, when the TFR fell from 5.6 to 2.1 in Taiwan. By way of illustration the author remarked that income per capita increased by a factor of 4.5; junior-high school enrolled more than double; consumption of electricity per capita increased 60 fold; and the number of automobiles in the country increased from 9,000 to 800,000.

Srivastava (1991) observed that couples who have experienced the loss of a child are less likely to want to cease having children than couples who have experienced no loss. Mishra et al. (1999) mentioned that a reduction in infant and child mortality commonly leads to increased contraceptive practice through the couple’s positive thinking about a smaller number of children.
Cultural factors like son preference is widespread not only in India, but throughout the world, although the intensity of this preference varies across different countries and region. Several studies highlighted three dimensions of the utility of having a son – economic, social, and religious (Arnold et al., 1998; Basu, 1989; Bardhan, 1988; Kapadia, 1966; Karve, 1965). The preference for son is believed to have powerful effect on the number of additional children desired by parents, which in turn influences their decision to adopt or not to adopt a family planning method. Several studies (Freedman et al., 1960; Khan and Sirageldin, 1977; Mutharayappa et al., 1997) reported that sex of the existing children tended to affect the attitude of parents towards having another child. Arnold (1996) noted son preference and its effect on fertility in India in 19 of its states. The Second and Third All India Family Planning Survey (ORG, 1980; ORG, 1988) confirms a strong preference for sons in India and showed a pronounced impact on contraception both in the rural and urban area.

Arnold and others (1998) based on NFHS-1 data during 1992-93 has shown that son preference is an important factor influencing contraceptive use in India and that the national contraceptive prevalence rate would be 5 percentage points higher if there were no son preferences. The NFHS-2
survey, 1998-99 shows that current use of family planning is lower among women with no son than among women with one or more sons.

The effect of education on fertility and family planning acceptance is well documented (Brachett, 1978; Jolly, 1978). Curtis and Westoff (1996) observed a negative correlation between female education and non-use of contraception. Education influences other variables that have a positive bearing on contraceptive usage. Educated women have more access to information through the mass media, particularly print media. Educated women have more status in the society and take more participation in decision making process. The NFHS–2 survey, 1998-199 shows that current use of contraceptive use among currently married women increases with education, from 43 percent among illiterate women to 57 percent among women at least a high school education.

The patriarchal culture and religious norms played important roles in decisions involving contraceptives and may discourage their use in Mali and Zimbabwe (Barnett et al., 1999). Younger women exercise little control over their bodies, mobility and finances. While family planning may be a woman's domain, the husband makes final decisions. The authors emphasized that family planning is one of many strategies
women can use to exercise autonomy in their lives. However, the community disapproval or the husband's opposition may discourage a woman from taking control of her fertility. Women perceive contraceptive use as a way of attaining the means to feed their families, pursue education, seek employment, and reduce the fear of unwanted pregnancy.

Similarly, about the contraceptive discontinuation and non-use by women several studies have revealed that apart from poor knowledge and method related problems (poor quality and quantity), socio-economic and demographic variables have been equally responsible (Mishra et al., 1999; Levine et al., 1992).

A few studies were carried out to see religious differential in contraceptive use. Religious affiliations determine customs and practices regarding marriage, norms about childbearing and family planning practices and status of women which in turn affect societal levels of fertility. The First (1970), Second (1980), and Third (1988) All India Family Planning Surveys conducted by ORG reported that a higher family planning usership among Hindus as compared to the Muslims. The proportion of family planning usership among Hindus was found as 14, 36, and 46 percent in
1970, 1980, and 1988 respectively. The NFHS-2 survey data shows that contraceptive use among Hindus (49 percent) is higher than among Muslims (37 percent) but lower than among women belong to most other religious groups (52 – 65 percent). In terms of religious and cultural characteristics, it has been suggested in some other studies that the contraceptive prevalence rate was lower among Muslim and low caste Hindu women (Mishra, 1999; Bora et al., 1998; Guliati, 1996) However, the extent to which the relationship holds true if the various social, economic, and demographic variables are controlled is debatable (Dreze, 2000).

The survey based some studies show that current users of contraceptives generally belong to an older age group, an average parity fall between 2 - 3, are relatively higher educated, economically more active and are residing in areas with easy access to health and family planning facilities (Zavier and Padmadas, 2000; Mari Bhat and Halli, 1998; Rajaretnam et al., 1994; Gandotra and Das, 1990; Ahmed et al., 1990).

Bora and Jha (2001) studied 1000 currently married women in the age-group 15-34 in rural Delhi during 1995-96. The results of the logistic analysis carried out by them showed that factors like women's age, literacy, number of living children, number of living sons, and visits to the health
centres have turned out to be significant or important in explaining contraceptive use. The other socio-economic, demographic and health functionaries related factors could not influence the women. The study showed that in rural Delhi, illiteracy and desire for more children/sons were some factors negatively influencing the motivations and service dynamics of methods. The authors argued that strategies like promoting literacy, delivering health talks and educating to the public as well as health functionaries on the counterproductive results of craze for more sons and children will increase contraceptive users.

Islam et al. (2001) analysed 2,229 currently married women under age 50 in Bangladesh and computed multinomial logistic regression estimates of the effect of demographic and socio-economic characteristics on current use of contraception. The analysis demonstrated that age, number of living children, education, membership of any women development organization, ever heard family planning messages, ever watched TV family planning messages, approval of family planning messages by husband and mother-in-law are important determinants of modern method use relative to no method use.
2.2 Programme efforts

As mentioned earlier programme effort factors included availability and accessibility of programme inputs, effective mass-media and interpersonal communication etc. Several studies have been conducted to assess importance of programme effort factors in influencing use of contraception. A few are mentioned below.

In a study Backwell (1971) studied attitude toward oral contraception and the factors influencing their response among 200 women attending Gynecology and Family Planning Clinics at the Queen Victoria, Hospital, Melbourne, Australia, during 1970. The study indicated that women who use oral contraceptives worry less about their effects, rely on their doctors for supervision, and are only slightly affected by negative publicity. Women who stop using oral contraceptives for reasons other than desiring pregnancy can be effectively influenced by both their doctors and publicity. In this case positive publicity could be supportive of their continued use of oral contraception. The women who have never used oral contraceptives are anxious about them, are negatively affected by publicity, and are not responsive to the counsel of doctors. It is possible that favourable publicity would not change their reaction.
A study of factors influencing the acceptance of oral contraceptives was made by Puri and Mishra (1971) at the family welfare planning center attached to the Regional Family Planning Training Centre, Cuttack, India during 1968-69. Ovuulen was supplied free by a lady doctor. Among complaints of side effects nausea, dizziness, weight change, allergic reaction, headache etc. reported. The study reported that a better follow-up care improved continuation rate.

Pisharotik (1971) studied whether or not the Indian program had been able to generate acceptance of family planning. The study was based on the utilization of differentials in output between states and regions and consisted of constructing a correlation matrix between socioeconomic and administrative variables and program output, and analyzing the relationships and possible interpretations. Multiple regression analysis was used where applicable. Analysis of national data with the states as units indicated that socioeconomic status of the receiving population and program resource input were not individually associated with program performance. The district comparison indicated that, other things being equal, there was a statistically significant correlation between program performance and expenditure, manpower, socioeconomic characteristics, and health service availability. In interpreting state data, two important factors emerged: 1) that administrative policy variables
and the availability of additional health services in urban areas have influenced the observed correlation between IUD use and modernization variables; and 2) sterilization has been accepted over a much wider variety of socioeconomic situations, representing both modernization and traditionalism variables.

United Nations Relief Operation Dacca (UNROD, 1972) studied the demographic picture, population policies and programs, the state of contraceptive technology, the mechanisms for policy formulations and program implementation at the national level, program implementation at the field level, and nongovernmental programs. The form of population control policy that was proposed suggests a field structure to accommodate three types of functions: provision of contraceptive services and supplies requiring facilities, distribution of nonclinical contraceptive supplies, and mobilization of local groups and organizations to promote small family size norms and the use of contraceptives. The study further mentioned that in the past, population policy has been formulated at the national level and has been implemented through an organizational structure designed to take the national policy directly to individual families. A possible major reason for the lack of effectiveness of the program was its failure to utilize existing organized groups for communicating with and influencing potential users.
of family planning. Finally, the study suggested that voluntary effort is the only way by which the population program can take on the character of a social movement.

Potential users require a wide range of information to make informed choices about contraceptive use, including its beliefs, available methods, method characteristics, and location of services. Some early researchers (Rogers and Shoemaker, 1971 and Rogers, 1973) argued that the most important type of communications process in the diffusion of family planning in developing countries was interpersonal communication. Other researchers (Lin and Hingson, 1974) suggested that in many circumstances, mass and/or local (lecture, bill-boards, village theatre) media could be more effective and more cost-effective than interpersonal communications in creating family planning awareness. In fact, evidence suggested that all three types of communication can be effective in changing behaviour related to family planning (Piotrow et al., 1997) and most programmes regarded them as complementary rather than competing channels. World Bank (1993) mentions whereas the mass media provide information quickly and repeatedly to large audiences, interpersonal communication leads to more in-depth understanding, addresses individual concerns, and gives immediate feedback.
In a pilot study (Taiwan, 1973) at Taiwan in 1970, an attempt was made to see impact of offering contraception kits and instructions to newly weds. The study revealed that of the married acceptors, who received kits, 70 percent were practicing contraception and 54 percent of those who received the booklet were using contraception. The study suggested that this is a positive approach that should possibly be implemented in other cities.

Ghosh and Ghosh (1975) studied a follow-up survey in which 100 women were given OCs for 1 year. Follow up occurred monthly for the first 3 months and was thereafter 3-monthly. The study remarked that Patients obtaining special attention could continue the pills for a longer duration and had minimum medical problems compared with those where individual attention was lacking. The difference lay presumably in prompt attention towards any trouble and the correct selection of pills. The survey indicated that the success of OCs depends on good educational status of the patients, special individual attention by the doctor, proper appraisal for the correct pill regimen, and frequent follow-up visits. Prompt discovery and treatment of any trouble can prevent disappointment and disillusionment with this method of contraception.
Porter (1980) remarked that follow-up reassurance programs might be effective in reducing birth control discontinuance and there is some support for the efficacy of personalized counseling at the time of adoption for urban, educated women who tend to have higher rates of discontinuance than their rural, less educated counterparts. His study mentioned that although the amount of negative communication received from credible sources was quite low, it did substantially increased fear of birth control use, indicating that attention should be given to promoting satisfied users of birth control. Negative communication and birth control fears did not significantly increase reporting of method problems. Though support for attitudinal and communication effects was not strong, the results suggest that these factors cannot be ignored.

Munoz-Paraiso and others (1980) observed the interrelationships of effective delivery system and contraceptive use. Among the issues in the area of Service Delivery were mentioned as 1) availability of contraceptive services dependent on clinic locale and hours; 2) service providers and their role in client acceptance of a contraceptive method and its continuance; 3) lack of coordination among field population personnel; and 4) lack of supply and basic equipment and its effect on delivery of contraceptive services. In the area of Information, Education,
and Communication, some of the issues discussed were: 1) how religious opposition, husband disapproval, and negative media reports hamper motivational work in family planning; 2) how counseling and follow-up are most effective in reaching dropouts or potential dropouts; and 3) how IEC materials must be developed to sustain acceptance and remotivate discontinuers. In the area of training, some of the issues handled were: 1) how the competence of service providers to dispense IUDs and pills is significant in acceptance of effective methods; and 2) how the maintenance of contraceptive usage and remotivation of dropouts should be emphasized. The study concluded that in the realm of research, the issues to be dealt with are: 1) how the program must adopt standard definitions for family planning terms; 2) how local volunteers are effective in motivational and follow-up activity; 3) how foreign contraceptives may be inappropriate for Filipino women; and 4) how basic assumptions of the training program must be reexamined to possibly redirect or modify goals and objectives.

The practice of contraception was analyzed by Population Council (1980) in the light of factors influencing it, such as advice from family and friends, or the use of radio or of TV. Knowledge, attitudes and contraceptive practices of pharmacists and of distributors of contraceptives agents and devices also were studied. Finally, it is found that contraceptive costs,
availability, and advertising were considered as directly influencing the acceptance of birth control.

An approach and a methodology for identifying persuasive communication appeals that have the best chances of influencing people's attitudes and behavior in the area of social marketing, specifically, family planning was developed and tested by Bhandari (1980). The author emphasized that family planning users have a more positive outlook and perceive a greater control over events in their lives than do nonusers. Results of the study indicated that influential people of a community with whom the audience can identify and religious leaders and "holy men" are more likely to be effective communication sources than urbanized change agents. Use of local dais (midwives) is recommended for promoting family planning acceptance in India.

Saksena and Rastogi (1982) conducted interview with selected couples in the sampled villages of the selected Primary Health Center areas of four selected districts of Uttar Pradesh, India to determine to what extent the message with regard to the population problem, small family norm, and significance of different family planning methods is disseminated among the rural population through different communication media. The study
suggested that the media suitable for the rural couples should be structured according to their literacy and educational levels and audiovisual tastes. Considering the socio-demographic scene in the selected rural areas, the study mentioned that the most suitable media of communication are likely to be film shows, religious songs, folk drama, and hand operated dolls and puppet shows. Interpersonal communication through health and family planning workers and the opinion leaders would also prove effective in propagating family planning messages among rural couples. The study further mentioned that most of the illiterate and poor couples did not benefit in terms of gain in effective knowledge about family planning through the network of mass media communication in the selected rural areas. Health personnel made limited family planning communication efforts through personal contacts the study observed.

The study (Barakat, 1982) also attempted to identify the factors influencing the attitudes of imams about family planning activities in Egypt. The study mentioned that most imams objected to the use of contraceptives on religious grounds and refused to set limits to family size. Most imams dealt with the issue of family planning in Friday religious speeches but were not convinced of the value of family planning. The study suggested that effectiveness of training as an approach for
modification of the attitudes of imams toward family planning and for intensification of their awareness about the extent of the population problem.

About communication used in family planning Muirden (1982) mentioned five main channels of communication in Papua-New Guinea. They are 1) individual face-to-face communication, 2) lectures, 3) house-to-house visiting, 4) special events, and 5) mass media. The author suggested that medical officers, nurses, tutors and supervisors, male health workers, aid-post orderlies, change agents, influential community members, and sisters-in-charge.

Khoo (1982) examined the effect of program inputs on individual contraceptive behavior in Indonesia. The analyses indicated that the available indicators of formal program effort have no effect on contraceptive use at either the individual or aggregate level. The author expressed that the way program is implemented in each province and its organization and activities at the community level may be important in influencing contraceptive use. Regional differences remain even after controlling for differences in the numbers of program clinics and workers. Findings from the aggregate level analysis suggested that contraceptive
prevalence is positively associated with both modernization and population pressure on resources.

Taleb and others (1983) studied 300 women attending an obstetrics and gynecology clinic in the city of Oman, Algeria concerning their psychological attitudes and reactions to different contraceptive methods. None of the women cited economic reasons for using contraception, but several mentioned the need to work. The husband's prohibition or religious disapproval were viewed as influencing contraceptive practice. The need for a doctor's prescription for the pill was not viewed as a disadvantage but rather as a form of authorization of contraceptive use which excused the woman from any guilt. A few women mentioned reasons why they had discontinued previous pill use, such as side effects, obesity, or menstrual difficulties. The IUD appeared to be acceptable mainly when side effects or contraindications precluded pill use.

The primary effect of television viewing was to stimulate interest in learning and acquiring information. Television offers a more dramatic message environment than radio and radio can be more dramatic than print materials (Manoff, 1985).
Lewis (1986) found that lowering prices of contraceptives increased the quantity distributed.

Perceptions about contraceptive choices, the planning of families, and service providers were analyzed in 514 female clients of 8 family planning clinics in Pakistan by Anwar (1987). The author mentioned that health care professionals played the major role in influencing contraceptive decisions among majority of the respondents, while friends and relatives were most influential for a few respondents. The majority indicated satisfaction with the service provided at these clinics.

Shanawany (1987) mentioned certain persistent socio-cultural values which impede family planning programs, particularly in traditional rural communities in Upper Egypt. The author cautioned about past shortcomings in the family planning program strategy which included programmatic emphasis on one type of contraceptive, the oral pill; clinical patterns of service delivery; lack of community outreach programs; wavering in political commitment; and lack of coordination of internationally funded projects.
Reynes (1988) analyzed contraceptive behaviour data on rural women in Philippines. The author mentioned that couple traits (e.g., age, income, education, and religiosity) had only an indirect effect on change in contraceptive behavior. A desire to stop, limit, or space births (motivation) was a strong predictor of family planning method acceptance. Further, couples who are contacted by clinic providers most often or who had received more family planning services were much more likely to use contraceptives. Indeed a significant relationship existed between motivation and services. Moreover, couples who were truly motivated to use family planning methods did not let distance to family planning services prevent them from seeking these services. On the other hand, couples who confronted personal obstacles to family planning including social, psychological, and other subjective costs (cost index) tended not to accept family planning methods. A negative association existed between services and location of households vis a vis the intervention program which indicated that the program did have an effect in the area of the province where it was located. In conclusion, the strongest predictors of change in contraceptive behavior included motivation, services, and cost index. Services and cost index indicated the great importance of interpersonal and/or client staff contact, especially since they were more important in influencing behavior change than distance and family planning site.
In the multicenter survey (Riphagen et al., 1988) of 400 married Filipino women 15-40 years of age conducted in 1986 by Family Health International and the International Health Foundation provided valuable information on contraceptive use in the Philippines. OC use was highest among women in their late 20s with 2-3 children. Urban-rural residence and socio-economic factors had little impact on OC use. Majority of women in the study reported receiving advice on contraception from family planning professionals.

A critical factor influencing the adoption of family planning is the quality and nature of inter-spouse communication on family planning. Few studies have shown the correlation between family size limitation and factors such as at which stage in the life-cycle the couples discussed family planning with each-other – before the first child, after one child, or only after having attained what both believed to be the right family size and composition (Thangadorai, 1986; Raju, 1987; and ESCAP, 1990).

At national level, Third Family Planning Survey by ORG, India (ORG, 1988) found that almost half of the couples never talk to each other on family size, while most of the rest (43 percent) discuss it only after achieving one or more children. Thus only a marginal proportion of couples (8 percent)
has any discussion on the number of children immediately after marriage. During 70s to 80s there has been considerable increase in the degree of inter-spouse communication. Corresponding to this change contraception prevalence rate has also increased. Higher the degree of interspouse communication the more is the possibility of continuous use of family planning methods (ORG, 1st, 2nd, 3rd Family Planning Survey). The NFHS-2 shows that only 18 percent currently married women in India discussed family planning with their husbands after marriage.

The role and effectiveness of family planning media messages in improving acceptance of contraception among women in refugee camps, and the roles of cultural, religious, political factors, and family background in influencing attitudes toward and practice of contraception were studied by Chongvatana and Wongboonsin (1989). The study concluded that greater exposure to family planning information through available media leads to increased use of contraception. The study also revealed that husbands influence women's contraceptive practices, but religion plays no role in choosing whether or not to use contraception. The study recommended expanding and improving the programs, and actively promotion of information, education, and communication on family planning in the camps.
Chatterjee (1990) pointed out that insufficient attention in the design and execution of the government's family planning programme to the sociology of family planning decision making within the household (e.g., the role of the "patriarchal and the mother-in-law"), and to overcoming the constraints facing women in particular (e.g., seclusion, time and distance to the health centres) continue to keep demand for family planning low.

Islam et al. (1991) examined the effectiveness of family planning activities through the Swainirvar Programme, a socioeconomic development project in rural Bangladesh. The Swainirvar Programme's strategy includes a high degree of community participation – especially women's participation. By having them assume a greater role in income-generation, the program hopes to give women a greater role in decision-making of the family, including family planning. The study suggested that the program's efforts to raise awareness about the economic implications of having a large family, the benefits of birth spacing, and the provisions of credit facilities have been instrumental in the increasing contraceptive prevalence. To further increase contraceptive prevalence, the authors recommended taking steps to increase women's awareness about their rights and family law.
Vernon and others (1991) also found that clinics that separated services for men and women, either physically or temporarily, performed greater numbers of vasectomies than did clinics that did not separate services. Studies in Guatemala (Bertran et al., 1987) have also shown the effectiveness of using men to recruit other men to use contraceptives.

To understand how far the infrastructure provided at sub-centre is compatible with the prescribed norm, ORG (1991) surveyed 128 sub-centres in the eight states namely Maharashtra, Andhra Pradesh, Karnataka, Orissa, Bihar, Rajasthan, Madhya Pradesh and Uttar Pradesh. The findings of the study show that a majority of the sub-centres do not have their own buildings and operate from one or two roomed "kucha" house. In some places the locations of sub-centre buildings were reported to be not convenient for ANMs staying. A majority of the sub-centres seem to be ill-equipped to provide minimum routine ante-natal and natal services. The supply of medicine and other basic materials like spirit, gauge, cotton etc. to the sub-centres was found to be inadequate.

Another significant factor affecting contraceptive use was distance to the nearest hospital or clinic. The study (Nguyen et al., 1992) pointed that the number of hours the village health center was open influenced the
contraceptive use. The study concluded that illiteracy, high infant mortality rates in the area, and unavailability of family planning services considerably prevented women in Vietnam from using modern contraceptives.

Revine et al. (1992) based on focus group study in rural Uttar Pradesh in 1992 remarked that the private sector has a comparative quality advantage for outpatient care from the client's perspective. The authors suggested to increase private doctors' involvement in provision of family planning services.

The family planning user profiles in Vanuatu was studied by Foy (1993). The finding was that few women with just one child use either OCs or the IUD; they represent a potentially under-served target group for the FP programs. The study suggested that service providers could specifically counsel such women and their partner on planned parenthood and through targeted health education material.

A study (Nigeria, 1993) emphasized that the numbers of clients served by the FP program could increase tremendously through quality of client care and the availability and functioning of service delivery points (SDPs).
The study also stressed on current management information and logistics systems.

Soares (1993) attributed strong economic growth made and their investments in health, education, and family planning programs as a reason of increase in contraceptive use in Botswana, Kenya, and Zimbabwe. Investment has resulted in improved health services and expanded educational and employment opportunities, especially for women, influencing fertility preferences and increasing demand for family planning products and services. The author pointed that the declines in the total fertility rates and increases in contraceptive prevalence in these countries is unprecedented in sub-Saharan Africa, with the exception of South Africa.

Sai (1993) studied political and economic factors behind contraceptive revolution in China, Colombia, Mexico, and Mauritius. The contraceptive revolution has been fostered by various international agencies through various conferences. The study emphasized that strong comprehensive programme and an aggressive political leadership achieved high contraceptive use. The study pointed that in communities where children contribute to the family economy, birth control tends to be regarded
negatively; while in societies where the family contribution to the child's education is high, contraceptive use is also high.

Some studies mentioned that interspouse interaction regarding family planning, the extent is low to moderate, largely superficial and not intensive. Moreover, couples seem to discuss terminal family planning methods more than others. Interspouse communication takes place at an advanced stage of the family building process i.e. after the couple has already achieved their desired family size of three or more children. Timing of the birth of first child, spacing between births and ideal family size are still subjects which are less discussed (Dey, 1993; ORG, 1988; Thangadorai, 1986; and Khan, 1987).

Olaleye and Bankole (1994) have documented contraceptive use and other behavioural changes following use of mass media.

The application of mass media communications to influence fertility is a natural extension of the basic idea that the media can both inform and motivate people, even about such complex matters as their reproductive means and goals (Westoff and Rodriguez, 1995).
Good client-provider interaction is one goal of a worldwide movement that places family planning and reproductive health in a human rights context (Alcala, 1995).

The Family Planning Association of Kenya implemented the Kenya Client-Provider Information, Education, and Communication (IEC) Project during February 1991-June 1994. The campaign was intended to increase partner communication on family planning and to increase awareness of the safety of modern contraceptives. Kim and others (1996) examined partner communication on family planning, and in the availability and use of educational materials at service delivery points as well as an improvement in the public image of family planning providers. About half of the people who heard the radio program in 1993 took some action, especially talked with spouse. People who listened to the radio program were more likely to use modern contraceptives than non-listeners. New acceptors were more likely to report the radio drama as influencing their decision to seek family planning services than any other campaign material. Respondents exposed to campaign materials were more likely to perceive service providers positively than those not exposed.
Physical placement of family planning facilities is often correlated with contraceptive use. Contraceptive prevalence in rural Thailand and the Philippines has been found to decline with distance from a contraceptive source (Akin and Rous, 1997).

There is a strong association between the mass media exposure of women and their reproductive behaviour. The significant relevance of communication between the spouses for acceptance of family planning method is substantiated by various studies. Several studies have concluded that husband-wife communication increases the likelihood of contraceptive use (Lasee and Becker, 1997; Mahmood and Ringheim, 1993; Mitchell, 1972). Spousal communication about family size has negative relation with intention not to use contraception (Curtis and Westoff, 1996).

James and others (1998) demonstrated in the Contraceptive Distribution Project (CDP) in Maltab, Bangladesh during 1978-80 that unmet demand for poor rural Bangladesh can be served by an intensive field programmes. Specifically, during the first 15 months of implementation contraceptive use increased from 10 percent to 34 percent. The authors argued that a user-oriented programme with a wide choice of methods,
skilled counseling, rigorous follow-up, treatment of side-effects and ancillary health services, will be substantially more effective and ancillary health services, will be substantially more effective than a programme based on one or two methods distributed by unskilled workers.

Bhat and Halli (1998) did a multinomial logit model study to identify factors influencing continuation of IUD use in Northern Karnataka, South India where IUD is most popular method but a low continuation rate. The study showed that the experience of real or perceived side effects as the most significant determinants of IUD continuation. The authors remarked that medical check-ups at insertion moderately reduced the experience of side effects. Women who selected the IUD for child spacing had significantly higher discontinuation rates at 3 months and were more likely to complain about side effects than those who chose the method for other reasons. The study suggested that policy shift toward recommending the IUD to older, high-parity women for limiting purposes should be considered.

James (1998) mentioned that at the service delivery point, administrative restrictions to contraceptive use include demands for excessive
documentation, inconvenient clinic hours, long waiting times, and overcrowded services.

Freedman (1998) mentioned that in the Taichung study careful follow-up of IUD acceptors was not only a desirable check on side effects but also established that those with a first IUD insertion were strongly motivated for birth limitation. The follow-up project strengthened the intention to provide service of as high quality as possible. One of the main purposes of the Taichung study was to demonstrate to political leaders that a large-scale family planning effort could be carried out according to a plan with measured results without political repercussions and in such a way as to provide a secure basis for an island-wide programme. The author further pointed that similar efforts resulted from early pilot programmes in several countries (for example, Bangladesh, Korea, and Thailand) that had this important political and bureaucratic effect.

The Family-Health Service Project in Matlab, Bangladesh (James et al., 1998) concluded that “contraceptive services can initiate a fertility change in a poor rural traditional population”. The authors mentioned that unmet demand for contraception exists in rural Bangladesh that can be served by an intensive field programme.
The National Family Planning Programme in Thailand was initiated in 1968 using the existing health care system, facilities, and personnel. Because a shortage existed of physicians and of nurses together with a relative abundance of auxiliary midwives, a project was designed to test the use of midwives to prescribe oral contraceptives to replace physicians' services in rural Thailand (Rosenfield and Limcharoen, 1998). The midwives were trained to use a checklist to review the client's relevant health history and present status. If any of the almost 20 items on the checklist, such as severe headaches, nipple discharge etc., the midwife referred the women to a physician. In six months after the project started the number of acceptors of oral contraceptives increased by 395 percent in the four study provinces. In the 13 control provinces, the comparable increase was 29 percent. In addition the six- and 12 month continuation rates of oral contraceptives were higher among women who were serviced by auxiliary midwives, compared with those serviced by physicians.

Nair and others (1999) analyzed NFHS-1 data of 1992-93 to study factor affecting source of family planning services in India. They remarked that private sector is much more important in urban areas and also among women with more education. However, they cautioned that in some areas, women may be turning to the private sector not because the
service is of particularly high quality, but rather public-sector services are of poor quality or are not easily available. Several studies reported many side effects after post-adoption of contraceptives. They suggested measures to be taken like pre-sterilization counselling to remove misconceptions and improper knowledge about sterilization, encourage of use of temporary methods before completion of desired family size, efficient follow-up services etc.

Rao and Somayajulu (1999) analysed 100 couples who accepted sterilization with a single living child across 13 villages in Bangalore. The authors mentioned that the parents invariably decided to accept the one child norm to ensure better standard of living to the child. The authors also cited that self motivation, coupled with the efforts made by the Family Planning Association of India (FPAI) functionaries contributed to acceptance of FP with single child irrespective of sex of the child.

Cohen (2000) examined the impact of various elements of family planning programs and women's socioeconomic characteristics on contraceptive use in Malawi. Findings indicated that four components of family planning effort, mass media exposure, contraceptive choice, accessibility of contraceptive services, and service quality contribute to
the use of modern contraceptive methods in Malawi, although their relative importance varies significantly across different segments of the population. Furthermore, the analysis strongly suggests that mass media messages have a powerful effect on modern contraceptive use, especially influencing women's motivation to limit fertility and increase their knowledge about the availability of supplies. However, in the absence of proper experimental designs, it is very hard, if not impossible, for policy-makers to determine the likely merits of alternative policy options. The author suggested that greater efforts need to be made to design demonstration projects that contain a careful experimental design that would allow researchers to better evaluate alternative policy options.

Islam et al. (2001) studied influence of mass media on use of contraception based on 2,229 currently married women under age 50 in Bangladesh. The logistic regression analysis demonstrated that continued exposure to family planning messages through mass media changes knowledge and attitudes of couples and helps them to create an environment in which family planning may be perceived as a social norm. The results also indicated that multiple media sources help to extend the reach of family planning messages. It also found that exposure to more media sources had an incremental effect on
reproductive behaviour. The authors concluded that mass media should continue to be used to promote family planning and other reproductive health issues.

Khan and Townsend (2001) emphasized that in the next few years focus should be on quality of information and care within client-centered, target free system. The authors mentioned about good governance and strong leadership at all levels for quality public services. The authors remarked that good governance demands the effective use of resources and vigilance to ensure that all the elements needed for a quality service are present where a client seeks a service. For a quality service the authors mentioned about accessible and well maintained facilities, competently trained staff, adequate information for clients’ to make decisions, counselling, on how to best use the methods selected and follow-up.

Ringheim (2002) suggested that providers who dealt with male and female clients must be sensitive to gender roles and how far they factor into client-provider interaction.
2.3 Outside programme efforts

Several successful programmes involving NGOs show that they can play a crucial role in motivating couples for acceptance of family planning. They have big potential to complement the efforts of government in achieving national goal in health and family welfare activities. Here, a few NGOs successful programme and their efforts to improve the delivery of MCH and family welfare services are reviewed. Also, a few evaluations of NGO's successful programme conducted by ORG are documented here.

Parivar Seva Sanstha (PSS) which was earlier known as Marie Stopes Society (Ford Foundation, 1987) was established by Dr. Sudesh Bahl in 1978. Its singular aim was to provide women's reproductive health care. It included generating awareness regarding contraception through the extensive use of mass media and other channel of communication, helping women to decide about the acceptance of family planning, networking with women's organization and other welfare agencies for promoting contraception, setting up clinics to provide maternal and child health care including provision of MTP services. In a short period of ten years it has emerged as a successful social enterprise using modern management and marketing techniques to achieve social objectives.
The PSS started social marketing programme which aimed at increasing availability of family planning in the community.

The Varanasi community based distribution (CBD) was launched by FPAl (FPAl, 1988) in collaboration with the department of preventive and social medicine of Banaras Hindu University in the year 1979. The main strategy of the project was to provide family planning services integrated with primary health care through active participation of people. The Varanasi project demonstrated that CBD approach is a quite feasible and useful concept which could work even in the most backward parts of the country. The project also underlines the usefulness of integrating delivery of family planning services with primary health care and other developmental activities. It also indicated that people could buy contraceptive and use spacing methods quite effectively if the services are easily and cheaply available.

Khan and Gupta (1990) evaluated Kundam Rural Integration Project located in the tribal belt of Jabalpur district in Madhya Pradesh. The study brought dynamics of community participation, how village level comities and Mahila/Bhajan Mandals could be availed to expand the base of the programme and help in evolving beyond family planning approach. The
main strategy adopted by the Project was to impart the family planning messages is through the local culturally acceptable recreational activities. The study confirmed that high (61 percent) percentage of family planning in the project area. The study clearly demonstrated that the project was successful in promoting family planning and MCH care through community participation in the various developmental activities.

Vadu Rural Health Project (Khan, 1990) initiated by KEM hospital at Pune in 1977 to demonstrate how an NGO can complement Government's effort to achieve to provide health services to all. The main strategy of the project was to create a cadre of volunteers from within the community, who could work as community health guides (CHGs) and became a link between the existing health delivery system and the community. They are expected to function as change agents to bring about overall attitudinal and behavioural change. The project started an collaboration with other agencies to bring about general socio-economic developments of the area through community participation. In this effort, local village bodies, Mahila Mandals and Youth clubs etc. participated actively. Available statistics show that overall the project has succeeded in achieving its goals. The impact of the project is evident from the decline in the birth rate of the area, reduction of infant mortality and increase in use of family planning.
Talwar (1990) expressed that a great potential exists of increasing involvement of NGOs in family welfare programme. Once they get involved, the programme will have community orientation which is a pre-requisite for the success of the programme. The author suggested several steps which could go a long way to ensure that NGOs get involved in the programme and make substantial contribution.

Based on field visits in three districts, Lucknow in Uttar Pradesh, Panchmahal in Gujarat and Quilon in Kerala, the study team (ORG, 1991) found several field level persons were involved in the family welfare programme. These included anganwadi worker (AWW), patwari, primary school teacher, fair price shop owner, forest development staff, traditional birth attendant (dai), village health guide etc. They under different circumstances played the role of motivations for overall health care. The study remarked that this is especially applicable to opinion leaders such as teacher and patwari, or others who are directly related to health concerns such as dais.

Operations Research Group (ORG, 1992), Baroda has conducted several evaluation studies of NGOs like Anand Niketan Ashram, PREPARE, Tribhuvandas Foundation, The Charutar Arogya Mandal, private and ISM
practitioners to see their role in providing health and family welfare services in the community. The evaluation studies indicated how they can play a crucial role in motivating the people.

Anand Niketan Ashram (ORG, 1992a) in the Rangpur village of Baroda district has been in operation for the last 43 years. The Ashram workers enjoy a great degree of credibility among the adivasi villages. The workers educate the adivasi villagers on personal hygiene habits. Women are also made aware of the importance of family planning. Misconceptions regarding family planning are removed by giving examples of people who have adopted family planning and benefited from it. The Ashram providers excellent after care to the people attending the family planning camps.

The Yusuf Meherally (ORG, 1992b) centre, located in the Bombay-Goa road deals with health services in rural area through rural hospital. The paramedical persons and community health workers received training on family planning and aspects of MCH from FPAI. The centre makes use of interpersonal channels of communication as well as the mass media channels to generate awareness on family planning issues. The
organization conducts group discussions, film shows, slide shows, and general mass meetings to disseminate information.

PREPARE (ORG, 1992c), a voluntary agency operating in Orissa, Andhra Pradesh and Tamil Nadu cover a wide range of development concerns in the villages including health, literacy and economic development. The prime thrust of its activities is towards the empowerment of Dalits. The organization has trained dais and utilized them in communicating and educating the mother about breast feeding, immunization, nutrition, and the like. The organization conducts cultural programmes as a part of their activities which serve, as a good participatory IEC tool where songs, plays, folklore etc. are employed to communicate the message.

A survey of private voluntary organizations providing health and family welfare services in the four states of Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh was carried out by ORG (1991a). The study indicated that the problem of inaccessibility to health and family welfare services is affecting the family planning acceptance and child survival in the Hindi belt consisting of Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh. The study suggested that Government of India (GOI) cannot alone meet
these challenges and there is a need for augmenting the GOI services by involving more non-government organizations.

Tribhuvandas Foundation, an NGO is working in various developmental activities in the villages of Kheda district of Gujarat. The foundation initiated community participation in MCH and family planning programme. ORG (1991b) conducted anthropological case studied and participant observations to understand their activities. The study observed that the activities of Tribhuvandas Foundation is mainly channeled through the village milk cooperative societies and the societies provides all kinds of support to Tribhuvandas Foundation to implement its activities. Due to de-centralized working approach and regular contact with the beneficiaries through the village health worker, a better involvement of the community was found.

The Charutar Arogya Mandal is a Trust which is actively involved in rural part of Gujarat initiated to undertake a project on family welfare education and services in the Kheda district. The evaluation survey (ORG, 1991c) suggests that the developmental programme initiated by the trust brought marked improvement in the status and quality of life. The study
showed that there was a substantial increase in the couple protection rate and reduction in infant and child mortality rate.

There are a few other NGOs that provide excellent quality of care. For example higher technical quality of care is reflected in adherence to strict criteria for eligibility in sterilization at SEWA-Rural (Khanna et al., 1990), an NGO in rural Gujarat. They do not hesitate to refuse sterilization if the client does not fulfil the minimum criteria. They also do not do operations in "camp" situations. All operations are done at the base hospital so are IUD insertions. Such meticulous quality consciousness has helped them get more clients for sterilization over the years.

Today, private sector plays an important role in providing family planning services in India. It was found that the majority of the users were depending on private providers for the supply of temporary methods like condoms and pills, which can be easily obtained from shop/ other private sector outlets (Nair et al., 1999). There are some studies, which argued that women may use private sector services because of its superior quality as compared to public sector services. Because under NGO management it is generally easier to assure minimum quality of services as the staff can be disciplined much easily than the government (Nair et al., 1999; Mavalankar, 1996).
To ascertain the knowledge and practices among Indian System of Medicine (ISM) and Homeopathy doctors from villages in the context of MCH and family planning, ORG conducted a survey (ORG, 1991) in 200 villages and interviewed 1332 ISM practitioners from Bihar and 1180 from Kerala. The study revealed that the ISM practitioners could be viewed as a potentially new channel for supplying contraceptives. The study also brought out of necessity of imparting orientation training to the ISM practitioners prior to their involvement. In another study on ISM practitioners in Bihar and Maharashtra mentioned that most of the ISM practitioners particularly from Bihar were interested to get involved in the family planning programme.

In a study (ORG, 1991) to understand the role of private medical practitioners (PMPs) in the promotion of family welfare programme in India reviewed 300 private medical practitioners in urban areas of Andhra Pradesh, Maharashtra, and Tamil Nadu. The study indicated that majority of the practitioners have been providing family planning services. However, the performance of respective PMP reported to be higher than those of unregistered PMPs. People did not bother for any incentive money but rather paid for operation charges wanted to avail better hygienic facilities.
All these studies show that how non-programme factors can play a crucial role in motivating and utilization of health and family welfare services.

2.4 Methodological issues

In order to stimulate effective contraceptive behaviour, an understanding of the impact of socio-economic, demographic, cultural and programme efforts in influencing the social and behavioural determinants of adoption of family planning methods becomes essential. There are some methodological issues in analysing the impact. The research work which is being carried out in this direction being provided here.

There have been claims that family planning programs have contributed relatively little to fertility reduction with the major determinant being social and economic development (Hernandez, 1984). Other researchers claim that the contribution of family planning programs, primarily operating in a synergetic relationship with development, have been instrumental in the fertility declines that have occurred (Bongaarts et al. 1990; Maudlin and Ross, 1991). Some of the earlier studies on the factors affecting utilization of primary health care services have pointed at the importance of
distance, non-availability of drugs/medicines and lack of faith in doctors
treatment as major factors responsible for the poor utilization of
government services (Kothari, et. al, 1982; Sharma, 1978; Pasrija, 1983;
Sivaraju, 1987; Mukherji, 1989; Kumar et. al, 1989).

Traditionally, researchers in India have placed emphasis in understanding
the role of 'demand' factors in determining the utilization of health
services and acceptance of family planning programme in India. These
factors include Age (Sholapurkar et. al, 1982), Education (Pathak et. al,
1981; Garg and Singh, 1985; Ghosh and Mukerji, 1989; Yesudian, 1989),
Caste (Rupert, 1992); Income ( Kapil, V. et. al, 1989; Khandekar, 1971) and
various social and cultural variables such as son-preference and gender
power relationships. Several KAP (Knowledge, Attitude and Practice)
studies which were conducted during sixties and seventies to be
continued in the form of baseline surveys on fertility, family planning and
utilization of health services have retained their focus on individual
characteristics in understanding the utilization behaviour.

In recent years, a number of researchers have put emphasis on the role of
supply factors or service components of family welfare delivery system in
determining the utilization, particularly the effect of family planning
program components on contraceptive acceptance. Beginning with the study of Hernandes (1984) and Lapham and Mauldin (1984), a number of scholars in India have examined the relationship between programme effects and acceptance of family planning (Khan et. al, 1988; Antony et. al, 1989; Srinivasan et. al, 1991). In another study Levine et. al (1992) provided information on the "signals" of quality of care that clients notice and also their concerns about various family planning methods.

As in many other areas of social science a few researchers have raised the debate which revolves around methodological issues. Numerous methods have been developed which are designed to assess the impact of family planning programmes (Ross and Lloyd, 1989) but only experimental design and areal regression are capable of providing measures of the effects of family planning programs that are net of the effects of development. Because of logical and financial constraints there have been fewer studies based on experimental design, therefore much of the assessment of the net impact of family planning program effort has employed in the regression approach.

In the early 1970s Lapham and Mauldin (1972) constructed an index of family planning effort based on 15 inputs. In 1982 the index was
expanded to include 30 items (Lapham and Mauldin, 1985), and in 1989 new scores were generated based on the same 30 items (Mauldin and Ross, 1991). The indexes such generated in these studies have been used widely in examining cross-national variation in fertility decline (Mauldin and Berelson, 1978; Bongaarts et. al, 1990) and contraceptive use (Lapham and Mauldin, 1985), and in 1989 new scores were generated based on the same 30 items (Mauldin and Ross, 1991). The indexes such generated in these studies have been used widely in examining cross-national variation in fertility decline (Mauldin and Berelson, 1978; Bongaarts et. al, 1990) and contraceptive use (Lapham and Mauldin, 1985).

The results of the cross-national studies, however, do not shed any light on what aspects of a family planning program is most important in affecting reproductive behaviour. The Lapham and Mauldin studies (Lapham and Mauldin, 1985) grouped their 30 items into four areas-policy and stage setting activities, service and service related activities, record keeping and evaluation, and availability and accessibility of fertility control methods, but typically apply only the overall index in analysis. The underlying complexity of family planning effort has rarely been analyzed. Entwise (1989) undertook a confirmatory factor analysis on the 30 items in the Lapham-Maudlin scores measured for 100 countries and identified
eight separate dimensions. Entwise argued that there is a need to use each of these items separately in analysis, although she does note that the limited number of units available for analysis makes this difficult. A related, but as yet unexplored, question, is whether the number of dimensions of family planning effort vary at different stages of the development of a family planning program.

Compared to cross-national studies efforts to apply an index of family planning effort in examining variation in contraceptive use or fertility among units within a country have been less successful in either explaining variation in the dependent variable or of isolating significant effects of family planning programme efforts (Population Reports, 1985). There are several difficulties in applying the Lapham-Mauldin framework to within country studies. For example, variations in programme inputs are usually smaller within countries than among countries. Secondly, the placement of programme inputs may be conditioned on the levels of fertility with, for example, more inputs being allocated to areas of high fertility. Thirdly, the underlying dimensions of family planning inputs at the national level may bear little relation to dimensions at the local level.
Ross and Lloyd (1989) have provided a detailed review of the problems that have faced researchers who have attempted to measure the effects of family planning programs by examining variation in fertility behaviour among areal units within countries. However, they also note that this approach is receiving renewed attention because of the availability of data sets which integrate community and individual level data. Models which combine both individual and aggregate level data are usually referred to as multilevel.

Multilevel studies of fertility, while having been carried out with countries as the units of analysis, have most often been applied to data collected for one country. These studies provide the opportunity to isolate particular aspects of social settings or family planning programs that affect individual reproductive behaviour. For example, in a study of contraceptive use in Egypt, Entwise et. al (1989) found that the type of contraceptive service facilities and numbers of village family planning workers affected individuals contraceptive use. Furthermore, they found that the effects of these variables differed among persons with different characteristics.
There have been several attempts to formulate multilevel models for explaining fertility behaviour in Thailand. The key areal measure in several of these studies has been the availability of contraceptives, while other studies have concentrated on indicators of development (Chamratrithrong et. al, 1992; Hirschman et.al, 1993). Results of these studies have shown that the impact of community variables, including both contraceptive availability and development variables, has been statistically significant although fairly modest.

Several criticisms of the multilevel studies can be made. Several studies have used levels of aggregation which may be too large to adequately index social settings that influence fertility decisions. Moreover, there have been few efforts to simultaneously investigate the effects of social setting and family planning inputs on contraceptive use on fertility.

In the recent years, in the analyses of factors affecting contraceptive discontinuation and factors that determine contraceptive method choice has been witnessed. Another part of expanded sophistication has come in the area of appraising contraceptive method mixes. It has increasingly been realized that a good contraceptive method mix is characteristic of almost any successful family planning programme and
researchers and policy makers have recognized the need for more information about the factors underlying contraceptive choice. Acknowledging the importance of contraceptive use dynamics attention has been drawn to the need for studying the contraceptive use process after method acceptance. Empirical attention is directed towards the dynamics of individual use, such as method choice, continuation and switching (Tsui and Herbertson, 1989; FPAI, 1990).

Although several of the studies have been done on measures of family planning programme effort, but most of them have been focused in cross country comparisons, only a very few studies are available for comparisons within a country.

Egypt Study (CAPMAS, 1992) examined how the quality of family planning services in Egyptian communities affects contraceptive prevalence. The study mentioned that several aspects of the quantity and quality of family planning service are related to contraceptive use when the level of socio-economic development is controlled.

The analysis undertaken in Thai studies (Guest and Chamratrithrong, 1993) illustrates the difficulties of establishing a linkage between family planning
programme activities and contraceptive use within a context in which contraceptive use exceeds 70 per cent and the family planning programs has been existence for a number of years. In such a context motivation for using contraception can be assumed to be high and it is unlikely that variations in programme activities will have significant effects on use patterns.

In another related study carried out in Bangladesh (Khuda et. al, 1993) emphasised that service and service-related effort measures and more important than the other input measures. Field worker home visitation, existence of physical infrastructure, and assistance in IEC activities are the major controlling effort measures.

In another impact assessment study in Bihar (Dey, 1993) suggested that religion, economic status, marriage duration, number of surviving children, number of surviving sons, inter spouse communication are the factors which significantly affect couples' contraceptive behaviour. Apart from these factors, the availability of depot holder or any chemist shop in the community and client's correct knowledge about location of Government health services positively influenced the couples' decision to accept any modern method.
In a study (Verma et al., 1994), quality of family welfare services and care in the three selected Indian states, Tamil Nadu, Karnataka and West Bengal, the authors mentioned that contraceptive use is higher among women who are given home visits by the workers. The influence of follow-up visits is found to be more pronounced in the future intention to use the government health services.

Vietnam Study (San et al., 1999) demonstrated the feasibility of provincial analysis of programme effort for identifying programme.

The above review has highlighted the need for greater understanding into contraceptive use, its choice and continuation as affected by clients' non-programme factors as well as the service related programme factors. Furthermore, it also calls for employment of appropriate sophisticated statistical techniques to measure factors affecting contraceptive acceptance, choice and continuation. The present research is an effort in this direction.
A very few studies are available in India which measures of programme effort variables and its impact on contraceptive use. In Madhya Pradesh where Government has initiated own state population policy and set the target to reach replacement level of fertility by 2011, the present research study deserves special attention.