REVIEW OF LITERATURE
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Fertility, mortality and migration are principal determinants of population growth. The age-sex composition of the population of the country is impacted greatly by its fertility and mortality, unless migration level is very high. These are the demographic processes which determine the size, composition and distribution of the population. All these processes are under the influence of social and economic factors.

FERTILITY

Fertility indicates the reproductive performance of a woman. The child bearing period of a woman is generally assumed to exist between the age 15 to 40. The level of fertility in demography is measured in terms of live-birth performance. The child bearing is, no doubt, basically a biological function, but the child bearing in any society is performed in socio-economic and cultural setup and is, therefore, influenced by socioeconomic factors as well as social customs, values and norms related to various aspects of childbearing Bhende (2003). In European and other developed and industrialized countries of the world, where individualism dominates the, modes of living, education is perfect, economic conditions is sound, standard of living is high and people are exposed to various media of communication, the birth rates are low. On the other hand, in a country like India, where society is agricultural, traditional and joint family oriented, people are living below poverty line and literacy and education is comparatively low, such conditions perhaps lead to the prevalence of high fertility.

Researches conducted in the field of fertility relate to one or more of the stratification variables like income, education, family type and occupation. These stratification variables according to the Freedman (1963) are important in fertility research because of their role in social and economic development. Many studies were made to explain fertility differentials in evaluating the prospects for an early fertility decline in India (Parkasi and Malakar, 1967; Rele, 1972; Misra and Sharma, 1978; Reddy, 1978).

Driver (1960) reported that there were slight variations in the mean number of children born in different income groups amongst Muslims, Hindus, Buddhists and commented that education and fertility showed inverse relationship with the fertility i.e. with increase in education the fertility level declined amongst these caste groups in India. An illiterate wife and husband had 4.7 and 5.0 children born respectively, whereas wife of above primary level education and father with college education
showed 3.9 children each. While studying the impact of occupation on fertility, he found that unskilled workers (4.3), agriculturists (4.9) and artisans (4.5) had the highest fertility, whereas the clerks had the lowest (3.9).

The joint survey of Mysore population (1961) by United Nations and Govt. of India revealed inverse relationship between education and fertility, that is, women with high school or university education had 4 and 2 children as compared to 5.4 for those with less education. The study also found little difference in mean number of children born to illiterate and literate women in Bangalore city, however, lower fertility was observed among educated women. The type of dwelling was used as an index of economic status by them, and they observed a positive association between completed fertility (that of women 45 years of age or over) and upper status. Female who were living in huts had 4.4 live-births, whereas those living in mud-houses and in still better houses had 4.5 and 5 live births respectively.

Anand (1966) observed a positive correlation between the education of the woman and number of children born/pregnancies; number of children was highest (9.1) among illiterates whereas the graduate mothers had 7.0 pregnancies. Illiterate as well as primary educated fathers showed 7.7 children, graduate and that with technical or professional education had 7.2 and 6.2 children respectively. The study also indicated inverse relationship between income and fertility, with more number of children in lowest income group as well as lower number of children amongst higher income group people. The number of children declined with an increase in the income except in Rs. 600 to 700 group, where it declined again, thereby showing non-significant correlation between income and fertility.

Saxena (1973), in his survey of Lucknow city showed a clear inverse relationship between general marital fertility rate and monthly income. The general marital fertility rate was 240 for persons having income less than Rs. 75 per month, 180, 140 and 80 for people belonging to income categories of Rs. 150-300, Rs.500-750 and Rs. 750 and over respectively. While studying fertility, he found that birth rate of illiterate women was 40.2 and that of educated was 36.7. He found significant negative association between fertility rates and education.

George (1976) found inverse relationship of income and occupation with fertility. He found high rank officials had lower fertility than other occupations viz. semi-skilled and skilled workers at all age groups, however, respondents from higher income group had smaller families than lower income groups in all age groups. This study showed strong inverse relationship between education and the number of live-births, illiterates had more children (5.57) and those with high school and college education had 4 and 3.87 children respectively.
Mohammed (1977) studied the effect of socioeconomic variables on fertility in the Economic and Social variables on fertility in the Economic and Social Commission for Asia and the Pacific (ESCAP) region and found that the number of physicians, literacy and economic activity rates inversely related to fertility. Nair (1978) found higher female literacy rates, medical facilities and favorable policy of government towards family planning programme responsible for bringing down the birth rate. Reddy (1978) studied the differential fertility in India and observed lower fertility among women with high school education than the literate women. He also found negative association between education attainment and the fertility level.

Sharma and Mishra (1978) observed a negative association between education and marital fertility and a decrease in fertility with rising educational status of the mother. The total marital fertility was found to be highest (5.29) for illiterate mother than that of mothers with higher education (3.71) among different caste groups in India. The investigators concluded that increasing literacy and educational attainment, higher age at marriage and acceptance of family planning would induce the fertility decline.

Mahedevan (1979) in his investigations on determinants of fertility differentials in South India, studied the variation in fertility with the help of socio-cultural variables, viz., age and family income, education and occupation of husband etc. Family income was found to be positively associated with the fertility. The study showed inconsistent pattern of fertility difference by occupation. For the population as a whole, fertility was found to be highest among agricultural laborers and lowest among owners and cultivators. As the general literacy level of wives was uniformly low among all the groups, therefore, the literacy rate of the husband was considered for educational variations in fertility differences. Education did not differ much as the proportion of higher educated men was very small among all the groups. Education of the husband was inversely related to the fertility in this study.

Singhal (1980) observed in Tripura that the level of education of the women tend to reduce the general marital fertility ratio. His conclusion was that with social and economic development, increasing literacy and higher marriage age, there would be continuous reduction in fertility in future. Varadarajan (1981) surveyed the Kotas in Niligiris district (Tamil Nadu) and found that women belonging to the house-holds having annual income of Rs. 2000 and below, Rs. 2001-4000, Rs. 4001-6000 and Rs. 6001-8000 and Rs. 8001 and above had 2.74, 4.05, 3.06, 3.15 and 2.75 average number of live-births respectively. The study indicated the highest average of live-births for illiterate women (4.16), followed by those who had primary (2.54) and secondary education (2.29). Women had the highest live-births (4.18), if their husbands were illiterate, while those husbands had
primary, secondary and college education had 3.57, 2.78 and 1.60 live-births respectively, thereby showing inverse relationship between education and fertility.

Krishnamoorthy (1980) noted that a desire for continuity of the family name or gender preference and for living children to support their old age is thought to influence the fertility behavior of couples in many countries. A reduction in mortality will increase the chances of survival for children and the continuation of family name. Thus, it is argued that with improved conditions, couples would tend to limit their reproduction, since a small number of births would be sufficient to assure continuity of the family name and survival of one or two children to support the parents during their old age.

Bhuyan and Ahmed (1984) illustrated inverse but weak relationship between educated husband and fertility, with an appreciable decline of fertility at graduate level. An inverse relationship between the educational attainment of the mother and fertility was seen in this study, female education had more depressing effect upon fertility than male education. The study further revealed that occupation of husbands had significant impact on fertility. Persons involved in agriculture had maximum number of children born (4.36) followed by laborer, business, service and other technicians etc. This differential in fertility among husbands with different occupational patterns was highly significant.

Patnaik (1985) demonstrated the socio-economic and demographic determinants of fertility behavior in Patna district. The findings of the study indicated that fertility of population varied by their socio-economic and demographic characteristics. Education was also an important factor influencing the fertility. The present study indicated an inverse relationship between education and fertility. It had been observed that as the level of education of husband changes from category of illiterates to the categories of literate, matriculate, intermediate, graduate and post-graduate, the decline in fertility had been of the order of 16, 27, 39, 43 and 44 percent respectively. Similarly, the respective declines in mean fertilities, when couples were classified by educational level of wives, were of the order of 30, 34, 42, 47 and 54 per cent. These findings thus, depicted that educational background of the wife proved to be more influenced than that of the husband in matter of procreation. The mean fertility showed a negative relation with occupational background of the husband. The mean number of children ever born increased one descends the occupational ladder and there was high level of fertility among the couples in the lowest occupational class, which might be due to the lower level of education, so far as the relationship between fertility and income was concerned, this study showed an increase in fertility upto certain level of family income and then it declined sharply. It increased from 4.52 for those earning less than Rs.200 a month to 5.22 for those
in the income group of Rs. 200-499 and thereafter it sharply declined to 4.00 for Rs. 500-999 income group. The study showed close connection between employment status of women and fertility, the working women possessed lower fertility than non-working woman.

Mathur (1986) reported an association between education of the husband and income level up to some extent. The study further indicated a positive relationship between monthly income of respondent males of different occupations with number of children born to their wives, belief in family planning, knowledge as well as use of family planning methods, opinion on government facilities in regard to family planning and their attitude towards inclusion of sex.

Puri (1989) illustrated that fertility level declined sharply as the educational level of the women increased, while the total fertility rates for illiterate women was 5.1, it was 2.1 only for women, who were literate but below middle school level. Thus, he observed that fertility levels were declined as educational level increases.

Haile (1990) examined the socio-cultural, economic and demographic characteristics of 734 women aged 15-55 in the Gondar administrative region of North-Western Ehiopia and found that women had few children than desired and stopped child bearing when they reached or closely approximated their ideal number of sons. Since son was clearly, the determinant of reproductive success, it is argued that only a significant change in the status of women can bring about widespread compliance with the official family planning’s two child norm.

Lloyd (1991) found a consistent negative association between women’s paid work and fertility in developing countries. He reported that effect of work on fertility in the short run is contrary to its effect in the long run. In the long run women who have ever worked, end up with fewer children, but in the short-run, current work appears to be associated with higher fertility. In almost all the countries, differences between women in their occupational experience (work-status) were found to be statistically significant in accounting for differences between women in their number children ever-born.

Das and Pandhiyar (1991) reported that the levels of total marital fertility rate have a tendency to decrease with an increase in the educational level of the husband and wife. Similarly, family income was found to be negatively related with fertility. The study indicated that the fertility of manual workers was higher as compared to that of white-collar workers. The use of conception has a tendency to increase with an increase in socio-economic status, while the duration of postpartum in fecund ability has a tendency to decrease. It was found that husband’s occupation and family income were also important in causing favorable changes in fertility by off-setting the
fertility-enhancing effect of modernization. However, the education of the husband and wife indicated little effect in lowering fertility.

Murthi *et al.* (1995) illustrated that female literacy and female labor force participation had a negative and statistically significant effect on TFR. Fertility was also significantly lower in the southern and western regions.

Kaur (2000) analyzed the fertility behavior of 405 ever-married women of Dadu –Mazra in Patiala between the age group of 15-45 years in terms of two socioeconomic variables that is income and education. She found an inverse relationship between the level of education and fertility and also reported that there was no such strong inverse relationship between income and fertility. This study showed that mean fertility was highest for illiterate respondents (3.79) and the lowest in the case of highly educated ones (1.68). Thus, mean fertility showed downward trend as the educational level of the women moved upward. She also reported that monthly income of the family was inversely related to the mean fertility. It is argued that by raising the economic status, the mean fertility could be brought down. A direct relationship between the income and users of family planning devices had also been observed. She concluded that education and income helped in controlling the growth of population and level of literacy was more effective in controlling the family size.

Syamala (2001) demonstrated the influence of childhood mortality on fertility behavior of women in Goa. They showed that the net effect of child mortality could be substantial. Women with personal experience of child loss and having pessimistic opinion about the level of mortality, produced, on an average, about two children more than similar women who never experienced a child loss and were optimistic about the level. The tendency to replace a dead child was found to cut across the level of literacy and religious background of women and hence increased fertility rate.

Bawah and Zuberi (2001) examined the association between childhood mortality and socioeconomic status (housing characteristics and household possession such as source of water, type of toilet facilities, housing construction materials; and household possession like radio, television, and animal possessions) in three southern African countries. They found that the chances of childhood mortality decreased consistently with levels of the socioeconomic status index.

Letamo and Oucho (2002) conducted a study on contribution of family planning programmes to fertility decline and found that the contribution of family planning methods and the use of modern contraceptives had a greater impact on fertility reduction in Botswana. They reported that family planning practices should also be seen as joint responsibility of both men and women. It was also evident from the study that men do influence the uptake of contraception and as such educating men
to appreciate the importance of family planning was likely to lead to increase use of contraception which helped in reduction of fertility.

Singh et al. (2002) studied the impact of education and autonomy on fertility of women of rural and semi-urban areas of Varanasi district of Eastern Uttar Pradesh of India. They found that level of autonomy increases as education increases. The percentage of women possessing high level of autonomy among highly educated, was twice of that relating to uneducated. They concluded that substantial reduction in fertility can be achieved through popularizing women education, promoting of employment opportunities for women, improving in women’s role in decision making and encouraging inter-spousal communication in family affairs. The desire for son was associated with low contraceptive prevalence. It had been suggested that the value of sons would be lowered in order to make family planning a success in reducing fertility.

Breierova and Duflo (2003) estimated the effect of education on fertility and child mortality by a school construction program that took place in Indonesia between 1973 to 1978. They showed that female education is a strong determinant of age at marriage and early fertility than male education. However, male and female education seems equally important factors in reducing child mortality.

Wardle and Steptoe (2003) investigated attitudes and beliefs that might underlie behavioral choices, including health locus of control, future salience, subjective life expectancy, and health consciousness, in a nationally representative sample. Lower socioeconomic status was associated with less health consciousness, stronger beliefs in the influence of chance on health, less thinking about the future, and lower life expectancies. Socioeconomic differences in healthy lifestyles were associated with differences in attitudes to health that may themselves arise through variations in life opportunities and exposure to material hardship and ill health over the life course.

Bossuyt et al. (2004) documented that people with a low level of education have shorter lives than people with a higher level of education. They also have fewer years in good perceived health, and can expect more years in poor health in their shorter lives. The inequality in health expectancy seems to be greater in females than males.

Biswa and Kapoor (2004) studied the age at menarche and menopause of the women among Saharia – a primitive tribe of Madhya Pradesh. In women life, menarche and menopause were the significant and inevitable events which indicated a particular adult stage of first periodical flow of blood from womb and cease to ovulate and menstruate respectively in all healthy women. Mean age at menarche and menopause of women were varied in regarding the different background factors like...
– nutritional status, family size, medical facility, genetic factor, environment, education, birth rank, living standard, socio-economic condition, etc. Mean menarcheal and menopausal age of Saharia women have been found to be high (13.5 ± 0.84 years) and low (44.6 ± 1.17 years) respectively.

El-Ghannam (2005) investigated that the relationship between fertility rate differentials and child mortality, female life expectancy, age at the first marriage for women, Mean years of women education, and participation of women in labor force among low developed countries and more developed countries. The results suggested that increased total fertility rate in LDC’s were more occurred among women who had more children die and who had participated more in labor force. Moreover, the result implied that total fertility rate decreased among women’s in MDC’s that had more number of years of female life expectancy and more participation in labor force. He also found that child mortality was quite high in those countries that fallen into the poor and extremely poor health and education. Therefore, the total fertility rate could be more some LDC’s than MDC’s. Other contributing factors included; such as adequate age at first marriage, raising educational attainment, and improvement health care of women that reduced child mortality rate. These factors supported in lowering total fertility rate of women in LDC’s.

Singh et al. (2006) assessed that how husband’s knowledge, attitude towards pregnancy control, and sexual behavior vary by socio-demographic factors that characterize the state’s population of Uttar Pradesh. They showed that husbands know relatively little about reproductive health. Very few husbands recognized the danger symptoms of pregnancy and delivery. The husbands with higher levels of education, higher economic status, who belong to general castes, engaged in professional or white collar jobs and those who reside in urban areas tend to know moderately more about reproductive health matters which helped in reducing fertility rate.

Nahar and Rahman (2006) examined the factors associated with women’s age at first marriage and interval between marriage and birth during 1983-1985 and 1992-1994. They documented that age at marriage was steadily rising in rural areas of Bangladesh, and the increase was strongly associated with increased female education. However, education of women has opposite effects on childbearing i.e. on the first birth (fertility). There was an indication that educated women tend to have their first birth as early as possible after marriage.

Josipovic (2007) examined the relationship between the education and fertility. In the prevailing view of the literature, education was treated as a highly influential factor in reproductive behaviour. This view posited a simple linear relationship between the two. It was argued that education and fertility make, rather than a simply linear relationship, a subtle pair. The data analyzed
was selected from geographical regions of Slovenia. The analysis brought curved relationship between education and fertility. He concluded that disparities in fertility rates among women with dissimilar levels of education in the studied territories were slowly diminishing through time, or have converted into other kinds of factor relations.

Hagestad and Call (2007) documented that overall differentials in completed fertility can be assessed both in terms of having any children and number of children. In low-fertility countries, a negative association between educational level and both having any children and number of children was often found in women, although lately differences in Scandinavian countries had been found to be relatively modest. For men there was less evidence on this issue and it was also less consistent than for women.

Goodman & Koupil (2009) Studied biological and social determinants of mortality and fertility which provided insight into selective pressures in a population. They studied determinants of reproductive success using multi-generational data from a large, population-based cohort of 13,666 individuals born in Sweden between 1915 and 1929. The effects of birth order, mother's age, mother's marital status and family socioeconomic position (SEP) upon reproductive success, measured as total number of children. Reproductive success was associated with both social and biological characteristics at birth. Higher family SEP was also associated with improved fertility.

Priya et al. (2009) reported that menarche and menopause demarcated the limits of potential reproductive life span in the female. A number of studies had conducted on this aspect in different endogamous population of Andhra Pradesh at different time’s. For the present work the urban and rural areas of Kshatriya women had been taken to study and this population has not studied previously on this aspect. In the study population it had been observed that, the early menarche in urban area while late menarche more in rural area. The difference of mean menopausal age between rural and urban areas was not significant.

Huber et al. (2010) investigated the association between socioeconomic status and reproductive output which was varied by the source of status and resources, the woman's education, and her age at reproductive onset (proxied by age at marriage). They examined the association between a woman's reproductive output and income and education by using a large sample of US women. Education, income, and age at marriage were negatively associated with a woman's number of children and increased her chances of childlessness. Among the most highly educated two-thirds of the sample of women, husband's income predicted the number of children. The association between a woman's number of children and her husband's income turned from positive to negative when her education and age at marriage was low (even though her mean offspring number raised at
the same time). The association between a woman's own income and her number of children was negative, regardless of education. Higher education led to lower birthrates.

**MORRITY**

Mortality is one of the demographic components which determines the growth and structure of a population. The purpose of measuring mortality is to draw inferences about the likelihood of deaths occurring within specific population during a specific period of time. The patterns of mortality or risk of dying are some times the valuable indications of the levels of public health services in the country. Declining mortality means reduced incidence of widowhood and longer continuance of couples in married status, which would subsequently lead to rise in birth rate. A decline in infant and child mortality would directly or indirectly increase the birth interval and hence help in reducing fertility.

The rapid growth of public health and medical services coupled with some improvement in socio-economic conditions did result in some decline in overall mortality in the country as well as in the status, though the level of mortality in India is high because of its high infant mortality. High socio-economic status is definitely associated with below average mortality and low socio-economic status results in above average mortality. Many workers, Viz., Frenzen and Hogan (1982), Caldwell (1979), Gwratkin (1980), Cochrain and Zachariah (1983). Stressed importance of socio-economic development and advancement in public health technology to reduce child mortality and its effect on subsequent fertility in women. However, some of these studies had analysed the trends and differentials of infant and child mortalities in societies, where rapid population growth and low level of development had worsened general socio-economic conditions over the years.

Shin (1975) studied the infant mortality of 63 selected countries and observed that child mortality was closely associated with national socio-economic development, as well ad the social class of people (Antonovsky and Judith, 1977). Caldwell (1979) and Frenzen and Hogen (1982) found that the inverse relationship between socio-economic variables and child mortality often reflects differences in parental knowledge and skills as well as family resources.

Caldwell (1979) showed that education enabled the mother to adopt modern ideas and her ability to deal with new ideas especially those from outside her own culture. Better information about hygiene and nutrition could lead directly to prevent some of the most common childhood diseases. An educated mother was found to be capable of judging the gravity of illness, to understand the capabilities of modern medicine and to seek approximate care for the sick child at the right time.
Jayachandran (1980) reported that the various socio-economic and demographic variables favored Punjab in having a lower level of infant mortality rate; it was much higher compared to Haryana. The higher infant mortality rate in Punjab might be due to the fact that they did not fully appreciated the beneficial effects of large amount of money being spent on medical aid facilities.

The study conducted in Greater Bombay, showed that infant mortality rates had declined faster during 1960-76 from 95.2 in 1960 to 74.1 in 1976. Male mortality (29.3) was found to be much higher than female mortality (26.01) during the period of first days, whereas in the latter age group, female mortality exceeds male mortality (Arora, 1980).

The other factors associated with child mortality differentials were differences in access to health care after birth (Hains and Rogar, 1978), and differences in demographic characteristics of mothers such as age, education and class (Bouvier and Jean, 1976; Frenzen and Hogen, 1982).

Varadarajan (1981) found that the crude death rate among the Kates of Nilgires district of Tamil Nadu was 13.40 and the infant mortality rate was 125. The causes of deaths were premature births.

Mukherjee (1981) studied the fertility and children mortality indicators for India from 1901 to 1981 and reported that deaths in the 0-4 age group each 5 years period, upto 1971, it was about 40 per cent and by 1981, the percentage increased to 47 per cent. The study further revealed that during 1961-66 and 1966-71, about 23 per cent of children died before reaching the age of 15, in the earlier periods such deaths were more than one-third of the births and in the later years the deaths by age15 declined marginally.

Bhatia and Neumann (1982) indicated that age at first marriage, ethnicity and marital stability were the significant predictors of fetal mortality in rural Ghana, while no statistically significant relationship has been found between fetal mortality and education and occupation of the wife, type of family (nuclear or extended) and family planning methods used.

Sinha (1983) studied the trends of female mortality in India in relation to male mortality and found that in the beginning of the present century, the female population experienced a slightly lower mortality than male population, though the difference was marginal. However, the mortality in case of females increased from 1911 to 1971 and the increase of 8.2 per cent was noticed in the decade 1961-71, which is the maximum and this gap of male and female death rate caused deterioration in the level of the sex ratio. The study further reported a decline in the female death rate during 1971-81, which was much more in relation to that of male death rate.

Reddy and Mahadevan (1984) indicated higher incidence of infant and child mortality among
slum dwellers than non-slum dwellers. A linear positive relationship was found between personal experiences of infant and child mortality on one hand and fertility on the other.

Srivastava (1985) found non-significant difference between infant mortality and mortality before reproductive age. Infant the mortality on the whole was lower and fertility higher among the Lamanis of Indra Nagar, which might be due to the low value of index of opportunity for selection among the Lamanis.

Kao and Dyson (1986) reported that the infant mortality rate for Maharashtra as a whole was estimated to be 82 infant deaths per thousand live births and it was much higher (94) in rural than in urban areas (56). Again among different religions, Muslims showed the lowest (63), early age mortality and the Buddhists the highest (105), whereas the Hindus had intermediated mortality (82). This may be due to the greater tendency towards urban residence among Muslims and the scheduled castes/scheduled tribe, status of many persons classified as Buddhists. The infant mortality rate for male children was 87, whereas that of female children was 78.

Amin et al. (1986) found that the differences in child mortality levels by categories within each variable suggested that the socio-economic variables had some impact on infant and child mortality. Again higher family resources of higher socio-economic status as represented by parental education or modern items owned had a statistically significant effect on reduction of infant and child mortality. Negative coefficient of socio-economic variables on infant and child mortality indicate the importance of modern influence and modern treatment in reducing child mortality, and

Gandotra and Das (1986) stated the cause of infant mortality and revealed that more than 60.0 per cent neonatal deaths occurred due to infective and parasitic diseases. These diseases were again found to be the main killer of children in post-natal stages along with gastroenteritis education of mother showed deaths between illiterate mothers and mothers with some education. Again the study revealed that the child mortality was higher for mother working outside the house-holds than for housewives. Occupation of the father determines the socio-economic status of the households, the child mortality was found to be higher in laborers as compared to all other occupations. As far as the causes and death were concerned, it was seen that neonatal deaths were more than the post-natal deaths.

Mahedevan et al. (1986) Showed that nearly 55 per cent of the infant deaths occurred within 26 days after delivery. The critical period of delivery and for timely medical services were during the first three days of birth, and frequently, during the remaining period of 20 days, apart from the time when supplementary foods are commenced. Several socialisation variables such as administration of
pre-lacteal feeds, breast feeding, initiation of supplementary foods, care and affection, together affected the incidence of infant mortality. Nutritional deficiency resulting from poor food choice, poverty and timely and proper medication combinedly affected the health of the mother and consequently, led to infant mortality.

Casterline et al. (1989) examined the relationship between household income and child survival in Egypt. Income had little effect on infant mortality but was inversely related to mortality in early childhood. The relationship persisted with other associated socioeconomic variables controlled. The mechanisms underlying the income effects were not evident from this analysis: income differentials in sources of household drinking water, type of toilet facilities, and maternal demographic characteristics do not explain the net impact of income on child mortality. The absence of effects on child survival of the size of the place of residence and the relatively weak effects of maternal schooling were also notable.

Mukherji and Coyaji (1991) reported that Uttar Pradesh had the highest infant mortality rate of 141.6 in 1985; Rajasthan had 108.2 and the all India average was 97.2. However, all the three areas had comfortable proportion of neo-natal mortality rate in infant mortality rat of 61.65, 60.07 and 61.83 per cent respectively. Similarly, Orisa, Maharashatra, Andhra Pradesh and Gujarat had different infant mortality rates in 1985. The study further a fall in infant mortality as a whole between 1974 and 1985, this was mainly in the post neo-natal period from 56 to 38 per thousand live births while neo-natal mortality remained unchanged in both the urban and rural areas. Maternal factors like literacy, income, nutrition, age and parity at birth, low birth weight of the baby etc., can play an important role in bringing about a sustained change in early childhood deaths.

Hope (1992) assessed the increasing rates of mortality among the children of low-income African-American families in the United States and the intensifying problem of improper health care that seems to have given rise to it. They documented that the primary problem underlying the health care assess of low- income African- American is that there is neither a system of universal entitlement that ties their health care in with the rest of the population nor as explicit and comprehensive strategy for care outside the dominant private system.

Rajaram (2000) analyzed the fertility and child mortality in India based on secondary data available at the district level. Most of the variables viz. female literacy, female age at marriage, family planning, availability of health services, urbanization, economic structure showed their effects in the expected direction. Urbanization was a powerful variable that influence both mortality and fertility. It has significantly negative influence on both fertility and under five mortality. Under five mortality was significantly lower in areas with a high urbanization, later marriages, and higher use of
sterilization methods. The social stratification measure, the percentage of scheduled castes and tribes has a strong positive relationship to under five mortality. However, the adult female literacy has a significantly negative effect on fertility, but it was not a powerful variable in explaining the under five mortality.

Nair et al. (2000) documented the positive influence of maternal health care programmes on infant survival in India. The data for analysis was taken from NFHS 1992-93 reports of India and major states. All maternal care indicators were highly correlated with differential mortality measures. The findings of the study revealed the importance of education and health care practices with respect to maternal care services and infant and child survival. Child health programmes and family planning together accelerated the reduction of both mortality and fertility.

Gandotra and Das (2001) evaluated the determinants and infant mortality in Gujarat and Maharashtra. They documented that infant mortality was found to be high when, the age at effective marriage of mother was below 18 years, interval between last two live births was below 18 months, and when the mother was illiterate. Mother’s young age had negative impact on infant mortality.

Jatrana (2001) conducted a survey between April 1996 to February 1997 of factors affecting infant and child survival in the Mewat region of Haryana State. They reported an association between household environmental factors and infant mortality. Hazard analysis suggests that crowding, refuse disposal and the presence of animals inside the courtyard were important correlates of infant mortality. The children with low risk of mortality were those who live in less crowded households (>3 persons per room) and who do not dispose of refuse in the courtyard and do not keep the animals inside the courtyard, Sanitation facilities were not found to have a significant effect on infant mortality. None of the socioeconomic variables (ownership of land, education of father and mother) was significantly related to infant mortality.

James and Subramanian (2004) developed a framework, to understand the determinants of neonatal mortality. They suggested two sets of factors: one relating to mother (like demographic, nutritional, genetic etc.) and the second relating to health seeking behavior and availability of quality health services. The study observed that many maternal factors do not play a crucial role in determining neonatal mortality except the birth interval variables. This points to the fact that mere enhancement of nutrition or socioeconomic factors may not help in controlling neonatal deaths in the country. The delivery, under medical supervision showed a positive significant relationship with neonatal mortality. It indicates the need to provide standard hospital care to save life of neonates.
Amouzou and Hill (2004) examined under-five mortality (U5MR) trends in sub-Saharan Africa, and the association socio-economic status—indicated by per capita income, literacy, urbanization—and under five mortality between 1960 and 2000. It showed substantial decline in U5MR in all sub-Saharan Africa regions between 1970 and 1990. Regional differential among West, Central and East Africa that existed in 1960s have largely disappeared by 1990. However, the decline in U5MR appears to have stalled in 1990s and some countries have experienced increases. The analysis showed a consistent negative relationship between U5MR and per capita income, but a given income implied lower U5MR as one moved towards the present. There was also a significant positive association between illiteracy and U5MR, and negative association between urbanization and U5MR. However, the effects of urbanization and illiteracy had diminished in the past decade, while the effect of per capita income has increased.

Garcia-Gil et al. (2004) illustrated the association between various social indicators and mortality in Seville, Spain. The social indicators that correlated most closely with mortality were illiteracy and female work participation. High female work participation and higher literacy resulted in higher mortality.

Prakasam and Prasad (2005) described that household environmental factors were more influencing on mother and child health. Better cooking facilities, availability of water at house, better sanitation facilities might lead to better living condition and in turn might lead to better health by examining the household socioeconomic and environmental, sanitary and child survival variables in tribal household in Chattisgarh. Household environmental factors, sanitation facilities, women literacy, husband’s literacy, SLI had been considered to know the influence on child survival by different caste in Chhattisgarh. It had been observed that having better environmental factor, households who were having medium and above index value, better work status of women and husband literacy had influence on child survival status among the population.

Gisselmann (2005) illustrated that infants of women with low or intermediate education had significantly higher mortality than those of highly educated women. This study showed that women with low education were at higher risk than women with a higher education of giving birth to infants who died within their first year of life.

Laaksonen et al. (2005) examined socioeconomic inequalities in self-rated health by analyzing indicator of childhood socioeconomic circumstances, adult socioeconomic position, and current material resources. Each socioeconomic indicator was inversely associated with self rated health. Childhood economic difficulties, but not parental education, were associated with health independently of all other socioeconomic indicators. Home ownership and economic difficulties, but
not household income, were the material indicators associated with health after full adjustment. Both childhood and adult- hood economic difficulties showed clear association with health and with conventional socioeconomic indicators.

Uddin and Hossain (2008) investigated the predictors of neonatal and post-natal mortality in Bangladesh by utilizing the data of Bangladesh Demographic and Health Survey (BDHS) 1999-2000. The study revealed that infant mortality was varied significantly by several variables. Among all the variables, parental education had significant negative effect on infant mortality, while parental occupation had significant influence on Post-neonatal mortality. The infant mortality was found higher in smaller families and it decreased significantly with increase of mother’s standard of living index. Multiple regression analysis carried out by using the significant variables i.e. mother’s education, family size, breastfeeding status, mother’s age at birth and TT during pregnancy influenced the mortality.

Hossain and Islam (2009) studied the effects of demographic and household variables on infant and child and under-five mortality of Charghat Thana in Rajasthani District of Bangladesh. Logistic regression model was employed to determine which factors effect on infant, child and under-five mortality. It was indicated in the study that age at marriage, mother’s age, household conditions and breast feeding practices were significantly associated with infant, child and under-five mortality. This study also suggested that higher birth order should be decreased because children with higher birth order had higher probability of death because of the effect of repeated pregnancies in depleting woman’s resources and straining her reproductive system and also mothers would be encouraged to breastfeed their children during infant and childhood period.

Tsui et al. (2010) documented that usage of family planning methods can prevent mother-child transmission of human immunodeficiency virus, contribute to birth spacing, lower infant mortality risk, and reduced the number of abortions, especially unsafe ones. It was also shown to significantly lower maternal mortality and maternal morbidity associated with unintended pregnancy and family planning practices can help in reducing the mortality rates.

**MIGRATION**

Migration is the movement of people from one geographical area of residence to another. It is a more complex process than either mortality or fertility, because it is neither inevitable nor necessary for the continued survival of the species like fertility, therefore, individual motivation plays a much greater role in determining migration. Migration usually brings about a change in the composition of the population; since migrants are usually younger than the general population, areas that are losing
people through out-migration will find themselves becoming older than areas into which migrants are moving.

Bogue (1961) hypothesized that migration has a very strong push stimulus tends to be much less selective, with respect to the community of origin than migration which has strong pull stimulus. Where there is a condition of strong push but no strong pull, origin selectivity is at a minimum.

Sovani (1961) found that percentage of migration to cities like Bombay, Hyderabad, Jamshedpur, Kanpur, Hubli and Poona due to unemployment at home, meagre income and insufficient land were 58, 50, 46, 40, 51 and 70, respectively. The remaining migrants had moved for education, better employment prospects in cities, attraction of city life or service transfer, for instance, in Bombay, 13.5 per cent migrated to city because of better employment prospects and 11 per cent migrated with families due to routine transfer and miscellaneous reasons. He further indicated that a small migration potential in the districts of Orissa, as only 7 to 12 per cent of the earness in the sample were willing to migrate. He considered income as an important factor in influencing migration, regarding occupation he observed that migration in the agricultural labour class, usually landless, was small compared to other occupational classes.

Browning and Feindt (1969) found the migrants in Mexico to be positively selective in education and occupational positions, but there was a transition from a pioneer to a mass pattern, the latter group approximated more closely the characteristics of the communities of origin, besides having lower educational and skill levels, the mass migrants considered more of married men and their families, whereas Li (1969) indicated that the attraction of socio-economic opportunities might be an important factor determining the relative strength of migration streams. In populations seeking socio-economic opportunities, migrants tend to move wherever opportunities appear, hence the magnitude of the main stream tends to be greater than that of the reverse stream. However, in a population less affected by socio-economic opportunities migrants tend to move to contiguous areas, thus creating a much closer balance between the main and reverse streams. The migration of females was found to have a greater reverse stream generating power than that of males. The correlation between main and reverse streams was found significantly high, but the degree of association varied with age. In young adults, who ate generally economically most active, the correlation was least and the association increased with age.

Gosal (1967) studied the migration from Punjab and listed various causes like density of population, per capita cultivated land, water-logging and the adventurous nature of Punjabis, whom distance could not deter in the pursuit of economic opportunities. Bose (1970) stressed the need to
identify the good or bad conditions, attractions and repulsions, present in the norms, values and values of the society of origin and also the attitudes and behavior patterns, which regulate migration. He classified under-employed and unemployed rural population into four groups.

- Those unwilling to leave the village but seek employment therein;
- Those willing to commute to the nearest city but not willing to permanently leave the village;
- Those willing to go anywhere, leaving their family behind in the village, provided suitable employment opportunities are available; this applies particularly to landowners.
- Those willing to migrate anywhere along with their families provided suitable employment opportunities are available; this applies particularly to landless persons.

Jain (1975) studied the internal migration in India and reported that the volume of migration was associated with the size of the town in the district, the unemployment situation and the proportional of non-agricultural population. Individual migration depends largely on the presence of friends, relations or fellow villagers at the destination. They provide job information and temporary boarding and lodging for arriving migrants. Family and village ties obligate the successful migrant to assist and sponsor new migrants to cities.

Connell et al. (1976) showed that both poor and rich migrants can come from the same village-depending on the resource structure of the village. The analysis of the data suggested that high emigration from a village was intimately associated with unequal distribution of resources in those villages, and that the migration flow tends to consist of both rich, educated villagers and poor and illiterate laborers. The second major conclusion was that migration was intimately connected to the distribution of land between households. There was no relationship between a village's rate of migration and the ratio of average per capita income of cultivators households to that of agricultural laboring households, but the latter variables was positively and significantly related to the measure of land distribution that itself associated well with out-migration.

Gross (1982) observed that migration of males from Loti was to seek white-collar jobs in the cities, hence the main reason for migration was the economic reason and aspirations of young men to make their career. Most of these migrations were of permanent type with little proportion of persons who moved out of rural areas for educational purposes, and Dasgupta (1982) reported that the decision about migration was a family earnings and the migration was usually financed from family funds. In case of organized migration towards plantation, mines and factories or even the oil rich gulf...
countries and other European Countries, the movement was often initiated and organized by the employers or agents of various companies.

Omondi and Ayiemba (2003) illustrated that migration patterns in Kenya in general differentially affected fertility levels, patterns and behavior. For economically dynamic areas, out-migration and the associated spousal separation and differential sex ratios seem to be associated with falling fertility, though migration was not the only or even the principal factor involved. The demographic effect of migration seemed to promote higher fertility by undermining some critical factors of fertility determinants and behavior. Examples from Africa in general and Kenya in particular are invoked to examine and explained this important association between migration and fertility.

Mberu (2006) examined the relationship between internal migration and household living conditions in Five Regions of Ethiopia. The analysis of the data suggested that migrants were educated and able to gain access into non-agricultural livelihood sources in the migrated places. Thus migration could be relevant for improved living conditions of them. They moved to better places because of low levels of education, poor economic opportunities, and high levels of unemployment in their place supposedly for better environments, as the economic psychological and social stability that might be helpful to translate migration into better living conditions.

A study conducted by UNICEF (2008) in Moldova reported that migration had many positive implications. It could alleviate poverty or reduce the risk of falling into poverty. Money sent home by migrants increased domestic consumption and improves access to basic goods. However, migration had a negative impact on demographic outcomes, on population age levels, on families and on the development of child left behind. Migration also affected community cohesion and reduced the power of the very concept of the family. Communities were no longer able to regulate the interactions between the members of the society and this increased the vulnerability of children, including those left behind.

Omondi and Ayiemba (2009) documented that migration was important not merely because of the redistribution of population but migration could lead to restructuring of overall population structures in general and migrants. These spatial and temporal changes in migration status and characteristics were concomitant with changes in the overall population dynamics.

Omondi and Ayiemba (2010) studied that migration patterns in Kenya in general differentially affected fertility levels, patterns and behaviour. For economically dynamic areas, out-migration and the associated spousal separation and differential sex ratios seemed to be associated
with falling fertility, though migration was not the only or even the principal factor involved. In lagging and/or peripheral areas, by contrast, the demographic effect of migration seemed to promote high fertility by undermining some critical factors of fertility determinants and behaviour. Examples from Africa in general and Kenya in particular were invoked to examine and explain this important association between migration and fertility.