Chapter-2

REVIEW OF LITERATURE

The first chapter of this research work was introductory. In the present chapter, an attempt has been made to describe and discuss in chronological order the review of existing and available literature related to the twin main parameters of the study, namely, demographic profile and family health status one by one. These literatures belong to the published research papers, standard books and authenticated on line study and research materials. The study and research materials provide a sound platform and requisite up date knowledge desired for the present work. They are critical in not only establishing the current status of research in the present context but also they identify the gaps, if any, that is required to be bridged by pursuing further research.

2.1 Demographic Profile

The changing sex ratio of children in India and in States along with possible reasons for variations in sex ratio has been described by Nair (1996)\textsuperscript{63}. The paper also measures the extent of female mortality disadvantage and describes the possible demographic, social, health and other consequences of changing sex ratio of children.

The paper observes that according to 1991 Census, the States Punjab (9.89 percent) and Haryana (9.48 percent) have the highest percentage of female children missing of the total female children. The States Gujarat, Rajasthan, and Uttar Pradesh have more than four percent missing female children and the States Andhra Pradesh and Assam have a little proportion of missing female children. Another implication of imbalanced sex ratio is of possible marriage squeeze in the society. The positive consequence of higher sex ratio is the improvement in the position of women in the society and thus
it will result in the avoidance of dowry system, but on the other side this will result more atrocities, rapes, forced marriages, prostitution, sale of brides and polyandry.

Among others, the paper suggests that from the experiences of many societies which had implemented different measures for the betterment of women, it can be seen that only concrete and far-reaching measures for improving the cultural, social, legal and economic position of women will improve the well-being of female children.

In their paper “demographic transition in the South: A Regional Perspective”, authors Rayappa et al (1996)\(^7\) have analyzed historical pattern of population growth in India and in Southern States, namely Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. The paper finds that the demographic scenario in the four Southern States has been varied. In the southern region of the country, mortality levels have reached lower levels than in the other parts of the country and further declines may be hard to come by. Fertility levels that which began declining in sixties and seventies show large variations across States and districts.

The paper suggests that population stabilization strategies will have to keep in view the wide range of diversity prevailing among States in total fertility rate, death rate and infant mortality rate. Policies and programmes will have to be tailored to suit the particular socio-cultural and economic factors prevailing in each area.

The major obstacle in India’s economic development is the rapid increase in its population. With the purpose to analyze the trend in birth and death rates of India and some of its major States, Awasthi (1997)\(^8\) conducted the study so that specific steps could be identified to mitigate the sharp rise in natural growth of population.

The study derives the following conclusion. Barring Rajasthan and Uttar Pradesh, all the States as well as India, entered the third stage of
demographic transition during 1970s. Rajasthan and Uttar Pradesh entered the third stage during 1980s. The period for first and second stage differs for States. Those States which have entered late in their second stage of demographic transition have experienced faster decline in death rates. States where absolute poverty is high, death rate is also high, and has the tendency to fluctuate above 10 deaths/1000 population. These States have relatively high birth rates too.

The long run strategy of effectively reducing the natural growth rate of population requires raising the mean age at marriage. Since the mean age at marriage is directly linked to the literacy levels, government must channelize more efforts to improve the over all literacy levels and of the females, in particular.

However, as a short run strategy, introduction of coercive methods of family planning will be an effective remedy to curtail the natural growth rate of population but it requires a firm political will which under present circumstances is a remote possibility to be implemented. An effective alternative to it is to broad base the policy of incentives.

In their research paper, Asari et al (1998) have studied the change in the desired and actual family size during the last 15 years in Kerala. It also underlines the determinants of desired family size in terms of socio-economic factors (education, occupation, religion, contraceptive practice etc.) and demographic factors (age at marriage, sex, number of children born etc.).

The study has brought out certain factors which are relevant for consideration in the context of implementation of the family welfare programme in the country. Education and age at marriage are observed as significant factors influencing desired family size and fertility. The rise in age at marriage has influenced fertility decline over a period of 15 years. The influence of education was to narrow down the difference between the
desired family size and the actual fertility, which is an important point to be noted. The cultural factors like religion and economic factors like occupation have also shown significant influence on desired family size and fertility in the State. Majority of the couples have been able to limit their family size during the period of 15 years under study.

The paper concludes that to achieve sustained decline in fertility, these background factors seem to be relevant. It can also be pointed out that the setback in the programme in some of the States in the country is due to absence of such changes in the background factors and lack of concerted efforts in that direction.

Rao et al (1998)\(^8\) have brought out the research article “Factors associated with female age at marriage in Pondicherry”. The paper exhibits very interesting findings of policy relevance. Duration of marriage, an indicator of the generation i.e. young or old, shows a negative influence on the female age at marriage. The childhood place of residence has a significant role to play in affecting the marriage age of females. Female’s order of birth in her family also determines her marriage age as shown by the analysis. Females from non-nuclear families have lower marriage age than those from nuclear families.

It is further observed that there exists a positive influence between the relationship of spouses before marriage and the female marriage age. The impact of education and occupation seems to play a significant role in altering the female age at marriage. Once a female is educated, then automatically her marriage will be postponed. Further, if she is employed in a better position, due to her exposure to the outside world, she may be in a position to comprehend the evils of early marriage and hence may delay her marriage.

Female’s role in deciding about her spouse, an indirect measurement of her status in the family shows a negative influence on her marriage age.
On the whole, it can be concluded that, in case of both rural and urban areas, cultural variables play a major role in determining the female age at marriage in addition to their individual development in terms of the educational attainment and work status.

Vijayanunni (1998) in his article “The Millennium Census of India 2001: Innovations, Initiatives and Improvements” has vividly described a number of innovative approaches that had been planned to undertake the next 2001 Census of the country. It discussed over the years improvements in the preparation of the house list and the housing census, the household schedule and the population census and data dissemination.

As prognosis for the census 2001, the article concluded that better planning in advance can and will ensure timely releases of data at the census 2001. Sustained and systematic action and continuity of experienced knowledgeable top echelons was of course a must for the success of this operation as was the case in 1961. The efforts for improving the quality of census had started with the framing of the questions and the design of the schedule format. The design of the schedules and the abstraction and compilation procedures for 2001 were being formulated with the objective of speedy release of data.

Madhya Pradesh is one of those States of the country where both demographic situation and level of social and economic development remains far from satisfactory. In this backdrop of Madhya Pradesh, the author Ranjan (2000) has tried to analyze the demographic situation and development status of the State at district levels. In view of the multidimensional nature of both social and economic development and demographic situation, a multi-indicator approach has been adopted for capturing both social and economic progress and demographic in a district.

The analysis of inter-district variations in social and economic development and demographic situation clearly indicates that there exists a
strong link between the social and economic progress and demographic transition across the districts of the State. The analysis also suggests that improving the capacity and quality of the people is crucial in hastening the pace of demographic transition.

Another important finding of the analysis is that because of very strong and diverse inter-district disparities in social and economic development and as well as in demographic situation in Madhya Pradesh, a unified strategy may not work in the State. Hence, a district based approach of development planning and a district specific approach is necessary to effect demographic transition and population control in Madhya Pradesh.

The UN Committee on Rights of Child has in a recent report observed, “Extreme poverty, which affected a significant part of India’s population, the impact of structural adjustment and natural disaster, was factors which represented serious difficulties to the fulfillment of all of India’s obligations under the International Convention on the Rights of the Child”. Poor nutrition starts in utero and extends throughout the life cycle, particularly in girls and women. According to WHO, of the 12 million annual deaths of children under five years of age, more than half are related to under nutrition. In this background of population stabilization efforts, Swaminathan (2000) tries to emphasize the role of over all child care and health in positively impacting population control measures.

Among others, the paper underlines that a demographic transition to low birth and death rates can be achieved if population policies are rooted in the principles of ecology, social and gender equity and opportunities for food, health, literacy and work. The Expert Group therefore recommended a “pro-nature, pro-poor, pro-women and pro-democratic choice” approach to population policies. Adequate emphasis would be given to the prevention of infant mortality and morbidity, especially reduction of perinatal mortality. Higher enrolment in primary schools, reduction in drop outs with particular
attention to girl children will be needed. Also, access to balanced diet and safe drinking water needs to be ensured.


The decomposition of the differences in total fertility between rural and urban areas shows that main components attributed to it are wanted fertility and index of preferences implementation. The difference in wanted fertility between rural and urban areas is mainly due to the difference in rural-urban development. The difference in index of preference implementation between rural-urban areas shows the difference in contraceptive use in rural-urban areas which is also one of the important factors responsible for higher fertility. These results show that there is need of special programmes for rural developments and to evaluate the performance of family planning programme especially in rural areas.

Early and universal marriage is the characteristic of nuptiality pattern in India. Despite the Child Marriage Restraint Act of 1929 and its amendment in 1978, prepuberty and child marriages still continue to take place in India, particularly in Rajasthan. Keeping this background in view, Sheela et al (2001)\(^9\) authored the paper “Inheritance of Marriage Age: The case of Rajasthan, India”. The findings suggest that only a small part of the relationship between mothers and daughter’s age at marriage is explainable by the cultural, social and exposure to information variables. The strong positive relationship in the age at marriage of girls between successive generations reflects social inheritance of early or late marriage and behavioural pattern.
Findings of this study which are relevant to programme are that knowledge of mothers about the legal minimum for girls’ age at marriage and mother’s exposure to audio-visual media have independent significant negative effect on the age specific hazard of marriage of their daughters. In other words, it means that legal provisions on age at marriage could have effect only when they are made known to the public.

Sex ratios in Indian population are becoming rapidly masculine. Using district level demographic data from Census 2001, Agnihotri (2002)\textsuperscript{2} has tried to study changes in sex ratio patterns in Orissa during 1991-2001. The paper explores that Ganjam district of Orissa needs particular scrutiny as regards female foeticide. Whether Berhampore urban area which boasts of medical facilities including a medical college, has become a centre for provision of foeticide services, is worth investigating. Emergence of such facilities in Angul and Jagatsinghpur also need to be watched carefully.

The paper warns that the convergence of urbanization, prosperity and anti female bias is a matter of worry and raises questions about the pattern of ‘development’ we are pursuing. Orissa needs to debate whether it should follow development of the Punjab- Haryana- Western Uttar Pradesh type or of the type of its southern neighbours. Sex ratio patterns among children are a powerful barometer of the path we chose.

As India witnesses the entry of the largest ever generation of adolescents, there is a growing recognition among policy makers and programme planners of the importance of addressing their multiple needs holistically. With this aim in view, a review of the socio-demographic and reproductive health profile of adolescents in India was presented by Pachauri et al (2002)\textsuperscript{69}. The data sources of the review are primarily National Family Health Surveys NFHS-I conducted in 1992-93, NFHS-II conducted in 1998-99 and Census 1991.
The review analysis shows that changes are taking place in the socio-demographic profile of adolescents, though slowly. Reproductive health status of adolescents however remains poor. Although fewer girls marry at very young ages now, many still get married before 18 years of age and begin child bearing early. Health care during pregnancy, during and after child birth is inadequate.

The prevalence of nutritional and infectious morbidity is high among all women, but higher among adolescent girls. Information on adolescents is limited. Data on sexual and contraceptive behaviours of unmarried adolescent girls and boys as well as on abortion practices among married and unmarried adolescent girls are grossly inadequate. Information on health seeking practices of adolescents is limited. Thus there is an urgent need to evaluate a variety of interventions in different settings if adolescent-friendly programmes are to become a reality.

Several studies have established that education of girls is one of the factors contributing to the rise in female age at marriage. Using Census Data, Zavier (2002) examined the shifts in Indian marriages by levels of female education in major States of India. The study observes that the percentage of spinsters is increasing with increase in the educational level in all States of India with maximum among graduates and above. Even though, in India and its States, the trends in median age at marriage are showing an increasing trend, it has been very slow compared to most of the Asian countries.

Despite the legal constraints, mean age at marriage was lower than 18 years in Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh in 1991. There existed a significant difference in female age at marriage among the States. Also similar differentials in female age at marriage existed by the level of education of women in all States. Women who were graduate and above, married about six years later than illiterate women in India in 1991.
The decomposition of the total change in median age at marriage shows that the improvement in literacy levels during 1961 to 1991 contributed only 31.5 percent of the total increase in median age at marriage in India. Majority of the total increase in female median age at marriage in the States was due to the increase in age at marriage among illiterate women except in Assam, Delhi, Gujarat, Goa, Kerala, Punjab and Tamil Nadu. Contrary to the common belief, this study concluded that factors other than education of women have contributed significantly to the increase in female age at marriage in India.

Mortality is not only the direct determinant of population change but also because the risk of mortality varies greatly by age. Discrimination against women has been a common feature in one form or the other in all societies. Singh and co-author (2003)\(^9\) used Sample Registration System (SRS) data from 1970 to 1998 both for males and females for Uttar Pradesh, Maharashtra and India for their study “Gender differential in mortality in India”.

The investigators observe that change in mortality in the age group 0-1 and 1-4 has made the largest contribution to the change in life expectancies at birth for both India and the States for both the periods, i.e. 1970-75 to 1981-85 and 1981-85 to 1993-97. The change in mortality produced the largest savings of life in the ages $60^+$. In India and Maharashtra, the ages 1-4 and 5-14 tend to reduce the sex differentials in life expectancy at birth. These are the two age groups where the discrimination against the female child is most frequent and which has severe implications on their health and survival status.

From the analysis it is clear that female mortality is relatively higher than males in the reproductive ages. However, over the years the improvement in female mortality is more in comparison to the male mortality. So, with the improvement in general mortality level, maternal
health and medical facilities focusing on women, it is expected that the gap in female-male mortality in the reproductive ages will narrow down in future.

The distribution of urban population takes place among settlements of differing sizes along a continuum from small towns to giant cities with population of tens of million. The study of urban growth by size class of towns could help to understand the stages of urban development in a country and the differential growth rates show the extent of rural to urban migration. With this objective in view, Bhagat (2004)\(^{10}\) has studied the dynamics of urban population growth by size class of towns and cities in India.

The paper concludes that although urbanization has been continuously increasing since the second quarter of twentieth, it has slowed down after a peak in 1970s. The relatively newer metropolitan cities like Pune, Surat, Patna, Kanpur, Jaipur, Indore and Jabalpur are growing faster and have maintained their growth tempo during the last two decades compared to older metros like Mumbai, Kolkata, Chennai, Hyderabad and Bangalore. Delhi being capital of the country, is growing faster compared to its counterparts like Mumbai, Kolkata and Chennai.

Million cities are very distinct in terms of their relatively high population growth compared to non-million categories, and some of them are fastest growing in recent years. The statistical analysis shows that the size of town and city is a relatively related to urban growth rates. It is quite natural that as city grows, it expands the economic base and activities of the cities leading to increased advantage to the trade and commerce as well as to industries from the agglomeration economy. But it can not be sustained very long. The cities should be allowed to grow naturally in order to reap the benefits of its growth momentum. In fact, the optimality of city size is elusive and each city could find its own in due course of time.
In traditional societies where the fertility is high, there is not much of sex preference for children. When the fertility declines, we notice a relatively greater demand for boys than girls. Krishnamoorthy (2004)\textsuperscript{52} has tried to investigate that at what level of low average ideal family size, the average ideal number of boys equals to the average ideal number of girls. The author has used NFHS-1, NFHS-2 and NFHS-3 data for the study.

The analysis reveals that when the demand for children is high, it may be because the cost of children is low and the benefit from them is high to the couples. At this stage sons and daughters do not cost much and hence they are equally preferred. With development the cost of children increase, particularly the cost of girls due to dowry. The benefits from the earnings of the girls do not help the parents and they are useful only to the conjugal family where the girls live after marriage. These motivate couples to desire smaller number of girls than boys. With further increase in the cost of rearing children, the over all demand for children (both boys and girls) is reduced.

The findings further conclude that the preference of boys and girls are equal at the societal level when the mean ideal family size is around 1.80. At this level of mean ideal family size, about 0.66 is the mean ideal number of boys as well as girls and the rest about 0.48 children can be of either sex. This suggests that under the present Indian cultural context, preference for sons has to be brought down drastically by suitable policies and programmes which will help in achieving the goal of an ideal mean family size of two children in the society.

Nath et al (2004)\textsuperscript{67} used the data of the survey entitled “A Statistical Study of Socio-Demographic Profile of Elderly Population in Assam” conducted during 1998 under the auspices of Gauhati University, Gauhati, and brought out the paper “The Importance of Son in a Traditional Society: How Elderly Parents See It?”. The study reveals that the elderly belonging to
lower economic strata and higher economic strata reported more importance of sons than the middle income strata. Those elderly who have land and other assets want a son so that their property would be maintained properly. It may also be concluded that support and security are multifaceted concepts; they may involve kin as a capital asset or continuity estate or security of one’s name, one’s money, one’s worship or ones welfare after death.

Security in old age is one of the most important reasons for son preference. There should be a positive change in the treatment of elderly in the form of social services, particularly pensions and other entitlements such as social security and Medicare programmes. The pension schemes have been introduced in some States of India as a welfare measure for the needy only. If the pension scheme is extended to all the elderly with higher amounts to the couples having no son to look after them, it would surely go a long way in dropping the parent’s total dependence on sons in future, consequently reducing the level of fertility.

The public health system has evolved over time as a large chain of population based sub-centers (SCs), primary health centers (PHCs), community health centers (CHCs) and district hospitals (DHs) in the rural areas and health posts (HPs), urban health centers (UHCs), and referral hospitals including teaching hospitals in the urban areas. Based on findings of National Family Health Survey -2, the researchers Srinivasan et al (2004) have discussed health care utilization by source and levels of deprivation in major States of India.

The study discovers three types of interesting patterns. Firstly, very low use of public health and medical facilities in rural and urban areas by all segments of the society as measured by deprivation score; secondly, extremely very high use of public health facilities without significant variations across deprivation levels and thirdly, higher use of the public
health system by the more deprived and lower use by the less deprived sections of the society.

While the patterns of the use of the public health system vary widely across the States and the different deprivation groups, there is a greater uniformity across the States in the use of the public system in family planning methods, especially the limiting methods. With regard to the use of spacing methods, the source of use is equally divided more in favour of private sources than the public health centers and hospitals. It is significant to note that even in those States where the utilization of public health/medical facilities in times of treatment of illness in the family is very low as Bihar, Uttar Pradesh (less than 10 percent), the percentage of those who had been using contraceptive methods, sterilization or spacing from such public sources, is close to 100 percent which indicates that whatever remnant of public health facilities are available in these States, they are working only on family planning activities.

Agrawal et al (2005) carried out a survey to study the demographic structure and fertility among the Bhotia Tribe of Uttaranchal. The demographic features of the tribe do not seem to be well placed as reflected by its high birth rate (26.9 live births per 1000 population) and high death rate (14.8 deaths per 1000 population) which allows a population growth rate of 1.21 percent a year. When compared to the State average, the situation is worse. This is despite the fact that the tribe is economically well off and literacy wise shows a better trend than that of the State as well as the nation.

Causes of high death rate are mainly poor medical facility in case of illness as well as in terms of birth related facilities. If this is taken care of, the death rate can be reduced drastically. A detailed break up has revealed that more than 90 percent of the fertility is completed in the age group 20-34 years. Further, although Bhotia women by and large support the government’s measure of family planning, still only less than half of them
have ever used any method of birth control. The paper concludes that government awareness programme needs to be reenergized at the local and sectoral levels to bring in a positive attitude and greater acceptance towards the various family planning schemes, particularly modern family planning methods.

One of the major areas of concern in India is the unsatisfactory situation of the poor in the field of mortality and health not only in the rural areas which is partly devoid of the facilities but also in the urban areas where the facilities are insufficient to cater the services of satisfactory quality. In this context, Chattopadhyaya and co-author (2005) have tried to investigate the condition of the poor living in rural areas, medium size urban centers and large urban hubs and metro cities in terms of some welfare indicators like fertility, infant and child mortality, contraceptive use, antenatal care and health status. The analysis of the paper is based on NFHS-2 (1998-99) data by applying bivariate and multivariate techniques.

The study finds that in economic standard, proportion of the population living in low stratum is much less in urban areas as against the countryside. Urban poor is having greater access to health care facilities, better use of family planning methods and even lesser infant mortality and more safe delivery. In this context, the medium size urban centers are even performing better than the large urban hubs.

The poor of the urban hubs have less neonatal and infant mortality as internal factors like biology and antenatal health care facilities that play a crucial role in this regard are much better in urban areas. But as soon as exogenous factors (environmental condition, child care and nutrition) start playing more important role over endogenous factors on determining child survival, large cities fall behind medium urban centers and some times behind villages. Poor of the villages lack health infrastructure while poor of the large cities need better hygienic living environment.
Based on the findings, the study concludes that the answer to the problem lies in promoting the mid size cities and towns as a model to effect a significant qualitative improvement in the life of the underprivileged section which forms the vast majority of the Indian populace. The solution to the problem lies in finding suitable means of livelihood that could be mastered in areas, which are labour intensive and does not rely on technical complexities. Ideally, a mid size town could become the hub of labour intensive enterprises. A secured source of income with adequate health infrastructure facilities can bring about the desired improvement in the life of this downtrodden.

Although North Eastern (NE) States have vast natural resources and are rich sources of flora and fauna, backward economic and infrastructural facilities and other locational, physical, socio-economic and political barriers considerably limited the development of this small area since independence. With the objective of the study of changing nature of some of the demographic features of North East disaggregated by various States, Das et al (2005)\textsuperscript{23} have carried out this investigation.

The North Eastern region comprises all the seven States namely, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Tripura and Arunachal Pradesh. The study is based on secondary data collected from various Census publications of Directorate of Census Operations, Mizoram and Office of the Registrar General of India, New Delhi.

The paper finds that a great variation of demographic characteristics is seen in NE region. It contributed only 3.75 percent to the total population of the country. Decadal growth rate of population recorded all time high in NE all through out the study period as compared to the country. Out of five States, decadal growth was seen highest (41.33 percent) in the decade 1951-61, whereas during the same period country recorded the decadal growth rate of 21.51 percent only. NE recorded the lowest decadal growth rate of 22.02
percent in the decade 1991-2001, but still it was higher than the national average. However, disaggregated figures indicated that about 70 percent of total population of NE resided in Assam only during the entire study period.

Although the percentage of urban population was seen to be low (15.51 percent) in NE as compared to the country’s figure of 27.78 percent, disaggregated study however indicated an almost equal percentage of rural (50.50 percent) and urban (49.50 percent) population in Mizoram. The rate of increase of decadal growth rate of population professing Christian, Buddhism and Muslim recorded comparatively higher than that of Hindus, leading to increase in proportion of population of Christian, Buddhism and Muslim religion in recent years.

The main and foremost objective of all planning and policies of any country is human development and to improve the quality of life of the human resources of the country. As the second most populous country of the world, India has only 2.5 percent of global land whereas it has to provide home for one-sixth of world’s population. In this background, Datta and co-author (2005) through their paper have tried to project India’s future population by the year 2015 along with its socio-economic implications that the country will be in face of.

The paper forecasts that the total population of the country will not be less than 1242 million by the year 2015. The per capita Gross Domestic Product (GDP) may increase by 148 percent under most favourable assumption but can not be doubled by 2010. It is required to create an additional 147 million employment for achieving full employment of the country.

The suggestions that can be drawn from the projection based on alternative assumptions for policy implications are: i) the investment have to be more and more on health and education of the people of the country. For adequate and efficient investment on human resource development, India has
to give emphasis on improving the quality and coverage of health and nutritional services as well as educational infrastructure; ii) One of the main challenges before India is to reduce the problem of unemployment and this would be by the end of 2015; iii) In the coming years, there will be an increase in the elderly population in India. More and more importance should be given to meeting the needs of elderly people; and iv) As there will be an increase in the population of reproductive age group 15-49, the focus should also be given for eliminating all the health problems related to this age group, that is towards full and proper coverage of Maternal Health Services, Reproductive and Child Health Services, RTI/STD management, gynaecological problems and the quality of services should be improved.

Gulati (2005) in his paper ‘Population Policies and Programs since ICPD 1994: Issues and Challenges Ahead’ observed that an all India fertility decline phase has set in but still the pace of decline is slow and bringing it down to replacement level (Total Fertility Rate=2.1) by 2010 is almost impossible. Unwanted fertility (0.72 children per mother) in India out of TFR of 2.85 children per mother i.e. 25 percent is still very high, and sincere efforts on qualitative as well as quantitative measures can bring us somewhere close to the set target.

The paper finds that unmet need of contraception of 25 percent as per District Level Health and Facility Survey (DLHS) data is extremely high and thus vigorous social sector reforms, vigorous promotion of small family norms, and making family planning as people centered programme seem to be the only remedy. The RCH utilization in India is very low, ANC (43 percent), institutional delivery (34 percent), children’s immunization (54 percent) during 1998-99. The IMR around 68 and higher Maternal Mortality Ratio (MMR) levels need focused attention to bring about further reduction to the level of 30 by 2010. The sex imbalance, especially among children 0-6 years in some economically developed States of India are indicative of
female foeticide because of strong son preference and lack of women’s empowerment.

To overcome these challenges, it is suggested that RCH quality-care package and family planning programme need priority attention towards achievement of population policy objectives, the range of choice of contraceptives and the quality of service to couples, especially in high-unmet need of contraception States be expanded, and delivery care and children’s immunization within RCH package need to be prioritized towards fertility reduction objectives. In addition, poverty alleviation and employment generation, especially in the backward regions are desirable on their own merits and would improve quality of life and restrain migration flows.

Population ageing which is a demographic phenomenon is entirely governed by the past and present levels of fertility, mortality and migration of the population. Lahiri et al (2005) carried out a comparative study on the role of age-specific growth rates on population ageing in some developed and developing countries, viz. Japan, China, South Korea and India. The data on age-distribution for different countries under study are taken from the respective census reports.

The study findings clearly indicate that China experienced very rapid change in population aging during the period 1982-90 compared to the period 1953-64. This was possible mainly because of remarkable decline in mortality situation at all ages, and also in fertility situation over the aforementioned periods. The change in population ageing seems relatively faster in South Africa compared to that of Japan. This was probably due to the fact that the fertility and mortality situations in Japan during 1970-75 were much lower compared to those of South Korea during the same period.

The situation in India in relation to its population ageing is rather different compared to those experienced by the other countries mentioned.
earlier. The analysis of the Indian Census age-returns shows that the change in mean-age of persons aged 5 years and above per unit of time in India during the period 1971-81 is positive for males and females, and it maintained the ageing process in positive direction during 1981-91.

One of the basic functions of a society is to procreate it. As human, some societies enjoin on their people early marriages of their men and women whereas some others prescribe late marriages. The social structure of different societies has greatly influenced the marriage pattern round the world. In his study Premi (2005)\textsuperscript{79} investigates the interplay of marital status and religion in India in the light of different demographic variables. The Census, SRS and NFHS figures have been used to perform the study.

The study indicates that there are both regional and religious differences in the average age at marriage. According to the 2001 Census data, States like Kerala, Assam, Punjab and Tamil Nadu have shown that the average age at marriage of their bridegrooms and brides are much above the national average whereas States like Bihar, Orissa, Madhya Pradesh, Andhra Pradesh, Rajasthan and Uttar Pradesh have age at marriage much below the national average of both males and females.

The age at marriage is highest among Christians followed by Jains among males and Sikhs among females. Age at marriage among Muslims is only slightly higher in total and rural populations compared to Hindus but is lower in urban areas where Muslims form a majority. There is no major State in the country, whether rural or urban, where marriages of both boys and girls have not been performed before their attaining the legal age at marriage even at present. At national level and in many States, the proportion of married males below the age of 21 years is higher than the proportion of married females below the age of 18 years. The question of child marriages and marriages of young girls has remained a major issue even after framing various Laws and Acts to curb this phenomenon.
In Bihar and Uttar Pradesh, especially in rural areas, bigamy/polygamy are practiced. The data indicate that bigamy/polygamy is highest among Christians followed by Muslims. Sociologically, after marriage (especially after gauna) if a woman has not produced a child at all over the next two or three years, or has given birth to only girls, there is a tendency in certain religious groups to decide for a second marriage of the boy.

In an article on “Population and Health in India: An Appraisal of Policy and Programme Perspectives” Pandey (2007) underlines India’s first step towards restricting the population growth was initiated by government of India way back in 1952. But the story of population growth before 1952 was different; the population growth was slow due to famines, epidemics and wars until nineteen twenties. The following decade (1921-31) saw a surge in population growth. The Bhore committee report indicated the need to strengthen the existing health infrastructure and include a national programme on family planning. In 1962, for the first time in history of the country, demographic goals were set up which continued until 1977. Acceptance of family planning was more pronounced in Southern States than Northern States.

In 1977, the Government of India (GOI) changed the family planning programme to family welfare programme, and revised the population policy completely as opposed to compulsory sterilization. The early eighties saw launching of Universal Immunization Programme (UIP) to reduce persisting high infant and child mortality as it was indicated that unless IMR is reduced considerably, the high population growth rate would go unabated.

The ICPD in Cairo postulated that population policies should be viewed as an integral part of programmes for women’s and children’s development. The slogan was “Development is the best contraceptive”. In 1997, Reproductive and Child Health (RCH) approach was adopted as a national policy of Government of India. Now we are in the beginning of 21st
century, and have at present three policies that have direct impact on population issues and availability of family planning services- National Population Policy (NPP) 2000, National Health Policy (NHP) 2002, and the most recent one launched in 2005 is National Rural Health Mission (NRHM).

Demographic changes in a region, to a great extent, reflect the extent of socio-economic development. Gender equality and empowerment of women is today recognized globally as a key element in the achievement of gender based discrimination. The author Lakshmana (2008), with three main objectives, namely, to understand and analyze demographic changes in Madhya Pradesh and Karnataka, to study gender inequality in the two States, and to suggest policy measures to reduce gender inequality, has carried out the study.

The study findings suggest that in order to bring down gender inequality and also to achieve further socio-economic development, a host of policy initiatives would be needed, for example, promotion of female literacy through planned interventions at block levels, augmentation of social infrastructure laying special emphasis on health infrastructure, making provision of more employment to the workers in the industrial and tertiary sectors, providing innovative forms of irrigation to the marginal and small farmers, and introduction of special programmes and schemes for the development of Schedules Castes and Scheduled Tribes for improvement in their socio-economic status.

How much critical are population, gender and health in deciding the course of growth of the economy and for determining the equitable development of the population at large, this has been discussed by Pandey (2008). Gender essentially refers to socially ascribed traits and attributes that are considered appropriate for men and women. The author stresses that population, gender and health are basic elements of development, and any
sustainable development is possible only if it is based on these three principles that ensure equity and rights.

The paper stresses that another challenge to existing health policies is outbreak of major epidemic diseases. In recent times, it is the HIV which is creating divisions in the society. The stigma associated with it is enormous and it is woman who is being marginalized and ostracized by society than men.

The paper suggests that structural adjustment made by various developing countries including India, where women have very few options of employment outside agriculture and earning becomes difficult. The structural adjustment also adversely affects the health of the people, especially women. There have been positive impacts of development policies such as education programmes in improving the health status of household including children. Hence, unless all the programme impacts are scrutinized from gender perspective, we may not be able to indicate true fruits of development.

The NFHS is a large scale, multi-round survey conducted in a representative sample of households throughout India. Analyzing National Family Health Survey I and II data, Saikia and co-author (2008) have attempted to explore factors affecting adult mortality in India. Multivariate logistic regression method has been applied to analyze the data.

The study finds that the determinants of adult mortality are many and diverse in nature. Education of the household individuals has stronger impact than the caste of that person. Wealth of the household is one of the paramount determinants of adult mortality in India as there is a strong negative correlation between mortality of adults and standard of living of households. Like other developing countries, educational composition of the household is a key factor influencing adult mortality; improvement of which can reduce substantially premature adult deaths in India. The composition of

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the household from economic perspective has significant importance in determining the deaths of adults; as dependency ratio of the household increases, mortality of the income earner section increases.

The study suggests that although there are some policies to combat mortality due to some major diseases such as malaria or HIV/AIDS or maternal mortality, a coherent policy is necessary to prevent premature deaths so that loss suffered by the family or society due to early death of adult members can be minimized. In formulating health policies, the people living at the bottom of the socio-economic strata of the society should get more importance in utilizing the health care facilities to reduce avoidable mortality. One important finding from this study is that there is a substantial degree of variability in the adult mortality due to several demographic and socio-economic characteristics.

Unlike many infectious diseases, majority of chronic diseases are due to life style. Health is affected by a number of factors over which the individuals have varying control and over which the conventional health sector also has little influence. In this background Choudhury and co-authors (2009) have studied the influence of socio-economic and demographic factors on the risk of chronic diseases in Guwahati, the gateway of North-East India. The data source used in this study is a primary one collected through a household survey conducted in Guwahati city during October-December, 2002.

The main findings of the survey are that characteristics like age, marital status, occupation, per capita annual income and addiction to smoking have significant effect on prevalence of chronic diseases. On the other hand, no significant association was observed between characteristics like gender, education, caste, media exposure, crowding and the prevalence of chronic diseases. There is higher risk of cardiovascular diseases for females than males. Elderly persons, persons of poor economic group,
unemployed and other disadvantaged groups usually have limited options and they have poor coping skills dealing with stress as a result of which they may be vulnerable for onset of chronic diseases.

The policy implications of these findings are that effective programmes and policies are urgently required to reduce the occurrence of these potentially fatal chronic diseases. Information, education and counseling activities concerning disease symptoms and preventive behaviour need to be strengthened.

Population, Gender and Health are the three key mutually reinforcing areas that are at the core of the programme of action for International Conference on Population and Development (ICPD). In the context, the author Mane (2009) has tried to describe the status of population, gender inequality and health that prevails in India and world.

The paper observes that one of the main barriers to better health and equitable growth is gender inequality. Empowered women contribute to the health and productivity of families, communities and nations. Yet discrimination against women and girls remains pervasive- including gender based violence, economic discrimination, reproductive health inequalities and harmful traditional practices, Gender discrimination limits the potential of societies.

One cause and consequence of gender discrimination is child marriage. The risks posed to the sexual and reproductive health of adolescent girls because of child marriage can be devastating. Because of fundamental gender inequalities, women and adolescent girls continue to die and suffer needlessly from disabilities during pregnancy and child birth.

The countries that have registered the greatest declines in maternal and infant mortality have expanded access to the reproductive health services. Investments in reproductive health are absolutely crucial to achieve
Millennium Development Goal (MDG)-5 to improve maternal health- a goal on which the world is doing poorly.

The level of future population growth rates, globally, will depend to a large extent on investments made in young people. In a country like India, with a median age of 24 years and nearly 20 percent of the population in the 15 to 24 age group, investments in the young people’s development- in their education, employment and health including sexual and reproductive health are vital.

India has second largest population in the world after China. The population projection that depends on mainly three factors, namely, fertility, mortality and migration, has become a very sensitive issue for India in the recent past. Chattopadhyaya et al (2010) projected the population of India by age and sex in the year 2006, 2011 and 2016 along with age specific fertility rates (ASFR) for India from 2008 to 2016.

As per projected population estimates for 2011, there is a 9.9 percent increase in the male population and 8.18 percent increase in the female population in 2011 in comparison with 2006. Similarly, as per projected population estimates for 2016, there will be 8.92 percent increase in the male population and 6.75 percent increase in the female population in 2016 in comparison with 2006. It is also evident that percent increase in the female population is sharply decreasing where as the percent increase in the male population is not decreasing as sharply as the female population.

The dynamics of demographic behavior of human populations over the last 200 years is characterized by a history of population related transitions. Nair (2010) in his paper has attempted to discuss these transitions in some detail and brought about the policy implications especially to developing countries. The twentieth century has witnessed dramatic and far-reaching shifts in the demographic behaviour of human population across the world, pioneered by the so-called demographic
transition (first) initiated in the Western Industrialized nations since 19th century. It was followed by the second demographic transition, again pioneered by the Western European countries since the sixties along with the family structural transition, age structural transition and of late, the third demographic transition implied by replacement migration. These empirical phenomena, no doubt, indicate that demographic transitions are inexhaustible.

The study derives that the completed as well as ongoing demographic transition has resulted in unprecedented and irreversible decline in fertility all over the world. This is, in a way, sufficient to shift our focus from the narrow target oriented family planning programme of the late 20th century to the broad based theme of reproductive and child health (RCH)- the so-called paradigm brought in by the ICPD in 1994 in Cairo. This will help achieve the enhancement of the quality of population.

2.2 Family Health Status

Early neonatal mortality did not receive much attention probably because of the notion that this component of child mortality is predominantly caused by biological and genetic factors, so that it can little be influenced by public health measures. Against this backdrop, the paper by Achyut et al (1997) attempted to unearth specific correlates of early neonatal deaths with the help of a conceived framework of the process using latest available survey data for rural area of Bihar, Uttar Pradesh, Orissa, Madhya Pradesh and West Bengal. Data from NFHS-1 (1992-93) is used for the study of determinants of early neonatal deaths.

The study shows that caste and education of mother have significant effect on the survival of infant in the first week of life. All the variables related to the pregnancy and delivery, mother’s demographic factors and child characteristics have shown significant impact on outcome of
pregnancy. Mothers demand equal medical care and attention during pregnancy as their children for reducing early neonatal deaths. Probably, the factors influencing health and nutritional status of mothers are much more important than anything.

Under the present medical infrastructure, a great amount of success can be achieved by strong mass-media coverage on areas related to child bearing and available MCH services. The study also unfolds the need of collecting reliable data related to health and nutritional status of mothers and also on health of the newborn for at least first 30 days of life to pinpoint the specific factors related to early neonatal deaths.

Using the data from Census of India 1991, Rajaram (2000)\(^8\) in the article has examined under five mortality and total fertility as demographic outcomes. In place of ordinary least square regression, two stage least square regression method which is an important regression technique for models in which one (or more) of the predictor variables is thought to be correlated with the error term, has been used for the analysis.

It is found that models used are able to capture 76 percent and 43 percent of district level variations in fertility and under five mortality respectively. The findings suggest that urbanization is a powerful variable that influence both fertility and mortality. It has a significantly negative influence on both fertility and under five mortality. Another variable which has a significantly negative effect on both fertility and under five mortality is the family planning variable. The adult female literacy has a significantly negative effect on fertility, but it is not a powerful variable in explaining the under five mortality. The negative relationship between fertility and female labour force participation indicate the requirement of programmes that controls the conditions of labour force market.

The study clearly brought out that for accelerating the fertility decline in various districts of India, programme efforts can be made more effective
by giving particular attention to key structural variables namely female literacy, female labour force participation and urbanization. Similarly, the under five mortality can be reduced by focusing special attention to the variables of female age at marriage, family planning and urbanization. Thus in India, the process of demographic change can clearly be reinforced through variety of channels.

In order to investigate various factors that influence the contraceptive use, a study based on a sample survey of 20 villages in rural Delhi was conducted by Bora et al (2001). In conclusion the findings suggest that the persistence of son preference was the primary cause of low intention to practice family planning. The desire for a male offspring does not appear to end with one living son.

Factors like women’s age, literacy, number of living children, number of living sons and visits to the health centers 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. Even the conviction that contraception is inconsistent with their religion and caste was not at all apparent.

In rural Delhi, illiteracy and desire for more children/ sons were some factors negatively influencing the motivations and service dynamics of methods. 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. For better results incentives should be given to those couples that ignore about the sex preference of their children and adopt a small family norm.

India has the second largest population after China. Population mainly depends on three factors- fertility, mortality and migration. On the basis of deterministic approaches, several population projections have been made.
Using component method of population projection in which the estimated demographic components for the current year and the population for the previous year are added together to calculate the population for the current year.

The infant mortality rate has been recognized as a summary index of the socio-economic development of a region. In order to explore the underlying causative factors that impede the reduction in the infant mortality, Gandotra et al (2001) studied the determinants and causes of infant mortality in Gujarat and Maharashtra.

The socio-demographic and maternal care factors affecting IMR are taken as maternal age, age at effective marriage, birth order, birth interval, mother’s education, prenatal care, type of delivery and birth weight. Logistic model has been used to determine factors associated with infant mortality.

The study reveals that the infant mortality rate follows a U-shape pattern when it is high, as the case of Gujarat, but this pattern gets changed to reverse J-shape when the infant mortality is low, as in case of Maharashtra. Infant mortality was found to be high when (i) the age at effective marriage of mother was below 18 years; (ii) interval between last two live births was below 18 months; and (iii) when the mother was illiterate.

Multinomial logit model illustrates that weight of the baby at birth, type of delivery and birth order are the only three covariates which have significant impact on infant mortality. The major cause of infant deaths was reported to be ‘certain conditions originating the perinatal period’ (42 percent in Gujarat and 49 percent in Maharashtra). Prematurity under this group was the major underlying cause both in Gujarat (25 percent) and Maharashtra (35 percent).

The study, “Intention not to use Contraception: A Comparative Study of Northern and Southern States of India” was carried out by Ghosh
The study based on major States of India has mainly two objectives. Firstly, the social, economic and demographic factors that influence intention not to use contraception are analyzed. Secondly, the differences as regards these factors in the selected States are attempted at.

The study finds that husband’s approval of contraceptive use is one of the major factors influencing intentions regarding future contraceptive use. Men and women, most often than not differ in their fertility preferences and in the Indian society, the views of the husbands prevail over their wives. The crucial and positive bearing of spousal communication in future contraceptive use in most States also highlights the male involvement in family planning decision making.

Rather not surprisingly, the desire for future child is one of the potent variables which increase the likelihood of intention not to use contraception in future in States which have not reached replacement level of fertility. Education emerges out as another factor that encourages contraceptive use; this calls for universalization of education.

The concept of RCH was deliberated at length, and adopted at ICPD conference at Cairo in September 1994 and got global acknowledgement since then. The control of Reproductive Tract Infections (RTIs) and Sexually Transmitted Infections (STIs) is an important component under Reproductive and Child Health (RCH) care package. The study by Gulati et al (2003) analyzes the inter-linkages between the incidence of RTIs/STIs and other RCH components.

The study highlights strong and inverse linkages between incidence of women’s RTIs/STIs and utilization of RCH care like antenatal care, institutional delivery care, and home deliveries attended by trained professionals/dais. Women’s characteristics like women’s literacy and their work participation depicts strong interconnections with the incidence and other RCH components. Sectoral aspects of economic development like
agricultural and industrial, and over all urbanization level depict strong linkages with the incidence of RTIs/ STIs.

The institutional deliveries depict significant and inhibitive effect on the incidence of RTIs/ STIs. Also fertility bears significant and positive impact on the incidence of RTIs/ STIs. Furthermore, women’s empowerment indices like women’s literacy and women’s work participation depict significant and inhibitive impact on the incidence. It is also observed that higher the fertility, higher the incidence of RTIs/ STIs. The level of urbanization depicted significant and positive effect on the incidence of RTIs/ STIs. Thus, it can be said that the positive paradigm shift towards the RCH care package now is most appropriate and desirable towards control of RTIs/ STIs and thereby fertility too.

Anaemia associated with iron deficiency is one of the major public health problems. It is one of the most common nutritional disorders all over the world but much more so in developing countries including India. Krishna (2003) in his paper titled “Is anaemia a public health problem in Gujarat?: An investigation using NFHS-2 data” discusses the distribution of levels of anaemia whether mild, moderate, severe or normal by personal characteristics respondents, and by demographic and health related characteristics of respondents and children.

The study has identified simple, easily recognizable maternal and foetal factors, which can be taught to all levels of health functionaries. All those important factors related to child care and nutrition should be monitored. The findings also reveal that socio-economic factors significantly influence anaemia, which could be improved with the help of general health education campaigns and also through specific interventions among at risk groups.

It may be concluded that antenatal clinics have made contribution to improvement in health status of mothers and children, not only in the form of
service component but also the stress on relevant health education. The study also suggests an urgent need for intervention programmes. At socio-cultural level, community awareness is to be made through concerted efforts in public health education.

Reduction in infant and child mortality, arguably, remains a primary concern for most developing countries. While strategies such as immunization, oral rehydration and control of acute respiratory infections have contributed to the decline in deaths among children above one month of age in the past 25 years, the reduction in neonatal deaths (death under four weeks of age) has not been significant.

The available trends and pattern on infant mortality in India suggest that an effective reduction in infant mortality in India will depend primarily on controlling neonatal deaths. While development strategies have focused on improving survival of children aged more than 30 days, thus ensuring success is one way, arguably, they have simply shifted the pattern of infant deaths towards early days. James et al (2004) attempted to draw attention to this neglected issue and at the same time presented a systematic framework to understand the determinants of neonatal mortality using 1998-99 National Family Health Survey (NFHS-2).

The study observes 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 socio-economic factors may not help in controlling neonatal deaths in the country. On the contrary, the delivery under medical supervision showed a positive significant relationship with neonatal mortality.

The study brings out the challenge ahead for both social and medical scientists. While the linkages between essential newborn care and neonatal mortality would be more of a medical concern, that of in-depth analysis using better data and framework remains a challenge to social scientists.
Till recently, males or husbands were neglected at several levels in fertility control, although husbands and wives contribute in bringing up their children in life. Based on the primary data of the project “Community Based Urban Slum Reproductive and Child Health” conducted in 1998 in 27 slums of Pune city, *Kanitkar and co-authors (2004)* have studied the agreement between spouses with respect to use of contraceptive methods. The analysis for the study is carried out with respect to the agreement between the spouses regarding (a) overall current use of contraception, and (b) use of specific method of contraception.

The study observed a very high degree of agreement between the husbands and wives regarding the current use of contraception. This is primarily due to the extraordinarily high level of agreement between the spouses regarding female sterilization. Regarding spacing methods, there is very little agreement between the spouses. On the whole, husbands have reported higher use than their counterparts regarding spacing methods. Large amount of agreement between husband and wives with respect to the use of female sterilization does not necessarily suggest a high degree of interspousal communication between the spouses in Pune slums. To large extent, it reflects the strategy of family welfare programme in Maharashtra which lays heavy emphasis on female sterilization.

The main challenge before the Reproductive and Child Health (RCH) programme of Maharashtra is to motivate couples to adopt spacing methods of family planning. In order to use spacing methods, spousal communication and agreement is necessary.

Reproductive Health has been till recently a neglected area in public health domain of several developing countries including India. Only after the International Conference on Population and Development (ICPD), Cairo in 1994, where it was recommended that the participating countries should
implement unified Reproductive and Child Health (RCH) programme, India adopted the RCH programme in 1996.

The study of Kanitkar et al (2004)\(^{48}\) tries to address three aspects of reproductive health problems in India. First, prevalence of RTIs among currently married women age 15-49 for urban and rural India and States; second, correlates of the prevalence of the RTIs in urban and rural India; and third, factors associated with RTIs in urban and rural India. The data collected in the National Family Health Survey-2 (1998-99) for ever married women age 15-49 on self reported symptoms of some common RTIs have been used.

The study finds that the prevalence rate of RTIs in urban areas (37 percent) and in rural areas (40 percent) differed significantly, contrary to the expectations the urban prevalence rate is higher than that in rural areas. The findings of this study are pointer to the fact that Indian women bear heavy burden of reproductive health problems. The prevalence rates across the States showed a good deal of variation.

The analysis revealed that Muslim women are more likely to have highest RTI prevalence rate than Hindu women or women of other religions. Exposure to mass media is significantly associated with RTI prevalence in rural areas. Women’s literacy and educational levels is associated with RTI prevalence in urban areas. Crowding (3 or more persons per room) is a significant factor that affects the RTI level in both areas. Thus one can endorse those women who come from lower socio-economic sections of the society and those who report their lower status in the family, face significantly more reproductive health problems.

Despite the efforts of national and international agencies to combat HIV, the recent estimates show that India has the largest number of HIV infected people in the world. In developing countries like India, to create public awareness about the disease is the only cost effective strategy against
HIV. In this backdrop, **Thimothy and co-author (2004)** attempted to study the awareness of knowledge about HIV/AIDS in India through evidences from Reproductive and Child Health (RCH) survey conducted in 1998-99. This survey covered currently married females (15-49 years) and one male member (20-54 years) irrespective of marital status in the household.

The results from the data analysis show that even after a decade of awareness campaigns, awareness and knowledge about HIV/ AIDS among Indian population is dismal, with more than 55 percent of individuals living in rural areas and 25 percent persons living in urban areas unaware about the disease. Despite the fact that major proportion of National AIDS Control Organization’s (NACO) funds is spent on aware campaigns, the awareness is poor which increases individual’s risk of infection and making the life difficult for those infected and affected.

There is lack of knowledge about HIV in high migration prevalent States like Gujarat. The nexus between migration and HIV has been already proved by many studies. If this condition of ignorance continues, India will become a fertile ground for the spread of HIV. The lowest level of awareness about HIV is recorded among people in the low Standard of Living Index (SLI) and also with least education. If the current scenario continues, the country would have to face huge economic burden in the near future in resource scarce economy. HIV virus having already made its headway into the general population, the task of dealing with societal issues and the consequent risk for HIV/AIDS is overwhelming.

Fertility preference means the intention of a woman to have children, how many she wants and when she wants. Fertility preferences determine the potential demand of family planning methods in a given area. The study of fertility preferences is crucial for both policy and from programme point of view. With the main objectives to study the pattern of unwanted fertility,
unmet need of family planning methods, and to examine the factors associated with unwanted birth/ pregnancy in Uttar Pradesh and its regions, Dwivedi and co-author (2005)\textsuperscript{29} carried out this study. The data from Uttar Pradesh, collected in the second round of the National Family Health Survey (NFHS-2), 1998-99, and logistic regression analysis method have been used in this paper.

The analysis very clearly brings out the fact that age, child loss, number of living sons and health facility in the locality play a crucial role in determining unwanted fertility. One of the most important reasons for older women having unwanted births was early marriage followed by early childbirth as a cultural trait in the eastern part of Uttar Pradesh. Women who experienced child loss had more unwanted births.

In northern India, couples still want at least two sons. So, where there were more than two sons, it was supposed to be that families wanted to limit the family size but due to lack of availability of contraceptives or ineffective use of methods or lack of knowledge, couples could not control family size. Due to this reason such families had higher number of unwanted births. At the village level, availability of health facility in the locality is positively associated with unwanted births (last child/ current pregnancy). It is also within the scope of the government to provide health facilities which are easily accessible. The village level variance has been found to be significantly higher in all regions.

Among the many biological factors affecting human fertility, duration of Post Partum Amenorrhoea (PPA) plays a dominant role in shaping the fertility behavior of a population. Also, interrelationship between fertility and nutrition has been in attention of researchers since long back. Based on a sample survey of 360 households conducted in the year 1999 in a Community Development Block (CDB) of Azamgarh district in eastern
Uttar Pradesh, the authors **Yadav et al (2005)** tried to investigate the interrelationships of poverty, under nutrition and fertility in the rural set up.

The findings indicate that the breast feeding duration beyond 12 months is not going to enhance PPA. However, shorter breast feeding duration (0-11 months) seem to shorten the length of PPA. The mean PPA that increased consistently according to the increase in the duration of Exclusive Breast Feeding (EBF) shows a clear cut association between the two. A strong association between PPA duration and anthropometric measurements was found.

With improved nutritional status, the mean PPA declined steadily with an exception that for obese i.e. Body Mass Index (BMI) ≥ 25, the average PPA was a bit larger. It is the nutrition/ socio-economic condition that act as a major determinant of PPA (especially the percentage of one month PPA) rather than the breast feeding. The values of PPA duration for last and last but one birth were highly correlated. This kind of relationship gives more support for the view that every female has an intrinsic value of the PPA and the role of breast feeding is just to help to achieve the intrinsic value.

The seriousness of nutritional deficiencies in India has been well known for a long time, but recent findings from the 2005-06 National Family Health Survey (NFHS-3) and other sources on the lack of improvements in child nutrition over time have caught the attention of policy makers at the highest levels of the government. In this scenario, **Arnold (2007)** examined the nutritional situation of women and men, and analyzed the determinants of nutritional deficiencies in India using the data of NFHS-1, NFHS-2 and NFHS-3.

The study finds that adult population in India suffers from a dual burden of under nutrition and overweight or obesity. The overall level of malnutrition has not improved at all in the last seven years. Anaemia among
women actually increased slightly during that period. Men are slightly less likely than women to be underweight or overweight or obese.

Children in India suffer from some of the highest levels of stunting, wasting and underweight in the world, and the situation has not improved markedly in recent years. Anaemia levels have actually increased since the time of NFHS-2. Most recommended infant and child feeding practices are widely ignored by parents, and the Integrated Child Development Services (ICDS) programme that has been in operation for more than 30 years in the country, has not been able to reduce malnutrition in young children to acceptable levels in any State.

The health status of the children is the barometer of the progress of any nation. Infant mortality rate (IMR) is a sensitive indicator of the availability, utilization and effectiveness of health care, particularly perinatal care and is commonly used for monitoring and evolving population and health care policies and programmes. Kateja and co-authors (2008) carried out a comparative study of Rajasthan and Kerala to explore causes, trends and levels of infant mortality in the States. Data for infant mortality rate have been extracted mainly from Sample Registration System (SRS) bulletin of various years. For various demographic, socio-economic, medical and environmental variables, National Family Health Survey (NFHS) -3 has been used. Data have also been taken from Census of India- 2001.

The study observes that IMR in Rajasthan is fourth highest amongst all Indian States (SRS, 2005). In spite of spectacular decline in last thirty years, the level of IMR in Rajasthan is very high. High IMR is simply an evidence of the deplorable health status prevailing in the State. It is ultimately a reflection of the series of social, cultural and economic factors which are definitely not responsive to short term strategies and go beyond the health sector. Medical causes would be automatically addressed in the
long run if socio-economic and cultural development were complimented with improvement in health infrastructure.

The success of lowering IMR in Kerala in spite of high density in population, low per capita income and low nutritional intake than national average shows that it is possible to reduce IMR substantially without awaiting for any substantial enhancement in the Gross National Product (GNP) and the over all development. ‘Kerala model’ of high social development in terms of education, transport, health and hygiene etc. is indeed a source of inspiration for States like Rajasthan. The paper finally warns that the prevalence of high levels of infant mortality would discourage acceptance of family planning methods further aggravating the population problem, so need of the hour is to evolve a long term policy.

Status is a composite concept, embracing within its ambit several factors which reflect the position of an individual conditioned by various social and religious customs and practices. How does the status of women impact the health status of children has been analyzed by Pandey et al (2008). The data used in the study have been taken from the report of the National Family Health Survey (NFHS-2) conducted during 1998-99 covering 91,196 households and 89,199 ever married women of age 15-49 in these households spread in 25 States of the country. The variables like women’s education, age at first marriage, exposure to mass media, autonomy and son preference have been taken to indicate the status of women. Similarly, the indicators of the health status of children are based on child mortality, immunization, nutritional status, prevalence of anaemia, prevalence of acute respiratory infection and prevalence of diarrhoea.

The paper finds that with respect to the status of women, Delhi has the best status followed by Kerala. However, though Kerala retained the first position with regard to health status of children, Delhi slipped to 8th position. The worst performing States for the status of women were Rajasthan and
Bihar but for the health status of children this situation went to Madhya Pradesh and Uttar Pradesh.

The States which have observed almost similar ranks for both the variables are Kerala, Goa, Himachal Pradesh, Gujarat, Jammu and Kashmir, West Bengal, Orissa and Uttar Pradesh. It also brings out the fact that if a particular State is performing well with respect to the status of women, it is also likely to perform well for the health status of children.

Closing gender gaps in schooling and health outcomes, wages and labour force participation, and access to land and financial resources has become an important challenge for policy makers in regions with most pronounced male bias. Despite India’s substantial progress in food production, disease control and social and economic development, more than half of its children under four years of age are severely or moderately malnourished. In this context, Agrahari and co-author (2009) have examined the possible differential impact of community factors on the nutrition of boys and girls in rural India.

The study concludes that community level factors (i.e. local infrastructure and prices) have differential impact on the nutritional outcome of boys and girls of rural India. The availability of better prices and better availability and accessibility to local health facilities may reduce the impact of intra-household gender discrimination in the long run. With the availability of a fair price shop, availability of a pharma shop and availability of a primary health center in the vicinity of the community, gender gaps in nutritional outcomes are likely to narrow down. It can also be inferred that the policies which can reduce the cost of accessibility and availability of services and food, can benefit children disproportionately.

Based on the National Family Health Surveys (NFHS-1, 2 and 3) data for ever-married women 40-49 years, and Sample Registration System (SRS) for 1991, 1997 and 2004, Dixit (2009) has described fertility change and its
determinants in India using decomposition analysis method. The most important determinant of fertility decline that emerged from this study are the region of residence, composition of children, standard of living, ever use of contraceptives, women’s education and experience of child loss. The decline in fertility is more prominent in the Southern and Eastern regions in comparison to other regions. Education continues to be a significant predictor of fertility in India during NFHS-1 and NFHS-3.

Another key factor, which contributed more to fertility decline, is standard of living. The rate of child bearing was more prominent among those women who had more sons than daughters in the year 1992-93, but recent data show that fertility has declined in this group. The abortion rate is high in case of female child and desire for more sons has not changed.

The NFHS-3 data confirm that age at sterilization in India is falling and couples have taken the initiative to adopt this method at an early age of the reproductive span. Hindus have less mean children ever born (CEB) compared to Muslims because Muslim men and women have a desire for larger completed families. Therefore, it is important that the Indian Government should emphasis on policies, providing more and more health and family planning facilities in villages. In order to popularize the adoption of contraceptives among masses, the providers need to be oriented about the clients’ rights to exercise choice.

Demographic transition is a global phenomenon that represents the process of explaining the transformation of countries from high birth rate and death rates to low birth and death rates. The epidemiologic transition focuses on the complex changes in the patterns of health and diseases, and on the interaction between these patterns and their demographic, economic and sociological determinants and consequences. In this scenario, the author Pandey (2009) studies the interaction of population transition and disease burden in India.
The study summarizes that though the health profile of India appears promising with impressive improvements in the socio-economic, nutrition and health status of people as well as the successful eradication, elimination and control of major killer diseases; yet the large growing populations, increased proportion of elderly, increasing burden of non-communicable diseases, lack of needed technology and resources, large scale poverty and methodological barriers associated with the disease burden data, seem to be major threats if timely and proper preventive measures are not taken.

Along with the demographic transition in India, the epidemiologic transition to an older population is also taking place. India that lies in third stage of demographic transition needs to find a way to deal with the dual burden of diseases as infectious diseases kill a disproportionate number of children particularly among poor, and at the same time, it is beginning to suffer from the chronic, lifestyle diseases of more developed countries.

Mukherjee (2010) through his paper makes an attempt to assess the state of health and health care in West Bengal in a comparative perspective with Kerala and Tamil Nadu. The author observes that although West Bengal has made substantial improvement in reducing its IMR in the last few decades, the rural–urban difference is still high and has remained almost stagnant since mid 90s. Except for immunization coverage, there is a significant rural-urban difference in the coverage of antenatal care, health awareness and health status of women and children. Women and rural population also share higher burden of mental ill-health.

In spite of its increase over the years, the present per capita availability of doctors, nurses and paramedics in West Bengal is well below Kerala and Tamil Nadu. In West Bengal, population’s dependence on government facilities is very high for inpatient care and very low for outpatient care. Such a contrasting health seeking behaviour with regard to inpatient and outpatient care utilization is not observed in Kerala and Tamil
Nadu. The experience of Kerala and Tamil Nadu suggest that West Bengal needs to increase its per capita government expenditure on health care and have more equitable targeting of government health subsidies, especially in inpatient care sector.

Population studies from narrow point of view of headcounts, deals with population size and its distribution by age and sex. Public health is defined as the science and art of preventing diseases, prolonging life and promoting health through the organized efforts and informed choices of society, public and private organizations, communities and individuals. In his article “Population Studies and Public Health: The Linkage”, Pandey (2010) holds that health can not be conceptualized in isolation. The key objective in public health services is to reduce a population’s exposure to disease. Hence, understanding and incorporating demographic, economic, socio-cultural and behavioural changes is a must to work towards a world with better health. Population change may be considered to occur in four dimensions; quantitative, qualitative, spatial and temporal. Some demographic changes have immediate health consequences.

A major consequence of the demographic transition is transformation in the age-composition of the population with increasing proportions of elderly. Family and community- based support mechanisms for caring for the elderly may be severely challenged as the number of old and infirmed persons grow. The paper emphasizes that a synergy of population studies and public health research is needed for stronger responses to the emerging challenges and threats to physical and mental well-being of people.

Utilizing the data from the 2004 Bangladesh Demographic and Health Survey which was conducted under the authority of National Institute of Population Research and Training of the Ministry of Health and Family Welfare, authors Rahman et al (2010) analyze factors associated with
childhood morbidity in Bangladesh based on two major diseases- Acute Respiratory Infections (ARI) and diarrhea.

The study reveals that age of the child was a significant factor in the prevalence of ARI and diarrhea among children aged under five. Prevalence of morbidity was highest among children aged below 24 months. Mothers from wealthy families and having higher education may act as proxy variables for a number of background variables representing a woman’s higher socio-economic status, thus enabling her to seek proper medical care for her and for the newborn whenever she finds it necessary.

The results also support the hypothesis that women belonging to the upper quality of household and educational status were less likely to report prevalence of ARI and diarrhea than their poorer and lower educated counterparts. Sources of drinking water and type of toilet facilities are most important factors for various childhood diseases. Children who received Vitamin A had positive significant effect on the prevalence of diarrheal morbidity.

The study suggests that by improving the household sanitation and making provision for pure water i.e. clean water can help prevent diarrhea. Female education should be encouraged, particularly in the rural areas, and working facilities should be made available to them, as children of educated mothers showed less chances of suffering from ARI and diarrhea. There is also a need to focus on health education messages, both at school and to teenagers, uneducated or less educated and poor mothers so that they would acquire more knowledge about ARI and diarrhea when to seek medical assistance.