CHAPTER V

DISCUSSION
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Population is at times the strength of a nation. No nation laments that its population is too large or too small, as long as it can balance the twin basic physical activities of man - those of production and reproduction. The problem arises when there is striking maladjustment, between the existing population and available resources for its support. The quantitative aspect of population is no doubt of great importance.

For India, the immediate question of quantity, the number of people, is the most important problem when viewed from food requirements and other sources of production. India is not self sufficient with regard to her food needs. But at the same time the census report shows gradual population increase upto 1981. The last and recent census of 1981 shows the population increase of 24.76% during 1971-81 and India occupies the second position in population strength in the world. The Government of India is giving more importance to check the population growth. Though the Government is paying enough attention to Family Planning Programme since First Five Year Plan, yet the population is found to increase in each census. So it is
the duty of the Demographers to study the all types of possible causes behind this type of population growth.

Several authors like Lorrimer and Davis etc. had shown that fertility performance in any population depends on several social and cultural factors. Indians in the past were practising fertility control for traditional social reasons, by methods which are traditional in their culture. Several biological factors are also responsible for the fertility pattern. So to study the cause of population growth, the investigators should study the different variables which influence the fertility pattern of different groups of people in different ways.

In this research project, the fertility performance of the urban population has been studied in two urban centres - Bhubaneswar and Cuttack. The samples are taken in random manner. The sample size has been selected (keeping in view the time factor) which can give the clear idea regarding the changes found among the urban couples due to the influence of different environmental factors. The fertility pattern of urban population has been studied among different urban couples of India but so far none has been conducted in Orissa.
With the advancement of time the environment and resources also vary among the population. No human population can maintain a static culture for ever or for a long period due to change in ecology, resources and social structure. So also the urban areas comprise of large population, the influence of different variables can not be maintained uniformly throughout. The present study by random sampling method can give the clear picture of the fertility performance of the urban areas and also throw some light on future trends on population growth and means to control the fertility rate. The extent of effect of the different variables (as discussed earlier) on fertility performance of urban population can show the change both in positive and negative direction. So by controlling different variables the desired result (check of population growth) can be obtained.

In the previous chapters the demographic structure and fertility pattern of the urban population of Bhubaneswar and Cuttack have been presented with their socio-cultural background. The present study has been made within a specified period and no similar study has been done on the same population before. So the type of changes which
occurred through time can not be known. In this chapter, attempt has been made to compare the fertility behaviour of these population with other urban populations under the same or different environmental situations on the country level according to the availability of information; to have some knowledge about the cause of population growth and the means to check the growth by controlling different variables.

In this research programme 1500 couples from Bhubaneswar and 1500 couples from Cuttack were interviewed to study their fertility pattern. According to 1971 census the urban household numbers at Bhubaneswar and Cuttack are 27701 and 43327 respectively. Out of them 1500 households from each were studied which can give an idea regarding the fertility pattern of the towns. As the age is one of the important factors for controlling fertility the couples were grouped on the basis of the wives age (as husbands age has very little influence on fertility). On the basis of age of the wives they are classified into 4 groups: (1) Couples where the wives are below 25 years (2) Wives' present age 25 to 34 years (3) Wives of age 35 to 44 years and (4) the oldest age group where the wives are 45 years or more. The wives belonging to different age groups starting from lowest to highest age group constitute 33.6%, 47.5%, 15.1% and 3.6%
of total interviewees at Bhubaneswar and the corresponding percentages are 18.1, 43.6, 26.3 and 7.0 at Cuttack. The demographic structure of the population of Bhubaneswar and Cuttack show that the people have different type of occupations, and the standard of living is also different. As the two places are urban areas, the people have many choices regarding their occupation; different caste people have left their traditional occupation; and all are trying to improve their economic condition and educational standard. The man folk and to some extent the females are also by trying to lead a better way of life by participating in multifarious activities. The couples are also very conscious of their surroundings; about their health and children's health. Almost all the couples are very careful about the future of the children and try to take maximum care of the children with their limited resources and to some extent by limiting the family size. Though all the couples are getting some facilities and living under more or less similar environmental condition even then the fertility rate varies according to different demographical conditions.

The demographic structure of the people of both the places show definite degree of variation. Though the
people of the two cities belong to various religions, this work is only restricted among the Hindus; who are the main religious group of Orissa. They are 82.7% according to 1971 census.

The small family norm has come so far only to industrialised, comparatively high income urbanised and literate societies. The desire for small family is now almost universal in ideological level, but between the desire and fulfilment, there is gap, as the different socio-cultural and biological factors influence the fertility pattern in different ways. According to Bogue and Patmore all these variables are guided by the cultural norm of the society. The social variables refer to institutions, roles and interpersonal relations and the cultural variables are the social norms. Rabin Williams defines "Norms as standards, by reference to which behaviour is judged and approved or disapproved ". Norm is a desirable behaviour, for example the desire for the small family is now almost universal, but between the desire and fulfilment remains the barriers like the preference for male children, which increases the number of children till a male child is born in the family. Thus the birth rate is governed by different variables, and the norm deviates from small family.
The population growth of the United States, studied by Donald J. Bogue (Principles of Demography) shows that it increased 25 per 1,000 with death rate 8 or 9 per 1,000 until 1957. After that the population decreased swiftly up to 1964 and 1965. Both the rates had fallen almost to a low level in 1933. Then the death remained constant in 1960 as it was in 1950. Decline in fertility actually took place during 19th century, even before contraception became easy. This decrease is mostly due to the effect of industrialisation and urbanisation.

The study concerning the demographic history of Tokunara and Meiji, Japan (The Decline of Marital Fertility in Japan, by Carl Mask - Population Studies Vol.33 No.1 March 1979) suggests that fertility rose substantially before declining during twentieth century. Desired fertility fell significantly below natural fertility sometime during the late nineteenth or early twentieth century and the wish to reduce actual fertility to the desired level stimulated the adoption of parity specific control. The spread of decline in marital fertility was partially governed by contraception and abortion.

D.S.Chandra Sekharan in his, "The Changing
U.S. Family, opines that the impact of the women's liberation movement and the permissive revolution on American birth rate (Population Review, vol. 21 No. 1 and 2, Dec. 1977) shows that the fertility rate in 1976 as 2.1 per woman, and over 200 years it is gradually declining.

The fertility pattern of Indian's has been studied by different workers at different places. The study in Nagpur District by Edwin. D. Driver shows that the average fertility rate is 4.6. The women who have completed their reproductive life (45 years and above) have highest fertility rate (6.4).

The fertility pattern studied by Chandrasekharan and George 1962, among the Bengali Hindu women found that village women have higher fertility rate (7.3) than middle (6.2) and upper class city women (5.7).

The fertility study among the urban communities of Uttar Pradesh (Lucknow and Kanpur) by J.N. Sinha (Differential Fertility and Family Limitation, in an urban community of Uttar Pradesh - Population studies, vol. 11, 1957) shows that younger mothers aged 34 years or less have on the whole, lower fertility than those above 34 years in all groups except Muslims.
Demographic profile of Calcutta by M.V. Raman

Population in India's Development from 1947 - 2000 shows that the average number of children per married woman aged between 23 - 42 years was 2.8 in 1956 but in 1970 it is 2.6 for age group 20 - 39 years. The women who have just passed the childbearing period had 4.3 children per woman in 1956, and it is 3.9 in 1970.

R.P. Goyal in his study - "Fertility and Family Planning in Urban Delhi" (Population in India 1947 - 2000, The Study was conducted by the Demographic Research Centre of the Institute of Economic Growth in 1969 - 70 in Cosmopolitan population of Delhi) found that; the total fertility rate was 5.16 in the year 1958 - 62 and 5.08 in 1963 - 67. In this large and first growing metropolis of Delhi the level of fertility was measurably lower than in the rest of urban India. The low fertility trend in different part of India began from 1960. The population study of India reveals that Indian women on an average give birth to 6 - 7 children at the end of her reproductive span (B.L. Raina). This average number of children varies in different states. Average number of children born to women of 47 years and above in the urban areas of Orissa is 5.77 (1971 census). In this study, the average children born to
women who are 40 years and above at Bhubaneswar and Cuttack are 6.4 and 5.4 respectively, which shows slight decline in fertility rate at Cuttack, but at Bhubaneswar it is more than the average rate of Orissa (1971 census). The sample size of completed fertility is rather small at Bhubaneswar and this may be the cause of the higher fertility rate at Bhubaneswar. In general among the interviewees the average fertility rate at Cuttack (3.4) is higher than at Bhubaneswar (3.1), which is perhaps due to the difference in type of people living in both the places. At Cuttack, the population are more permanently settled, the joint families are more, the people are more conservative, more people are business men and traditional workers. But at Bhubaneswar, most of the people belong to the service group and as it is a newly developed city, where permanent residents are few and nuclear families are more and percentage of literacy is also higher. Hence the couples have the freedom to decide their own way of life. So the fertility rate is slightly less (0.3) than those at Cuttack.

The Age Specific fertility rate (starting from youngest to oldest) at both the places (1.6 and 1.7; 3.2 and 3.3; 5.3 and 4.4; 6.4 and 5.4 respectively at Bhubaneswar and Cuttack) show gradual increase with the increase of present
The fertility rate at Bhubaneswar and Cuttack is lower than the average fertility rate of India according to 1971 census, and also that of Delhi in 1967. The average fertility of the women who have completed their reproductive span at Bhubaneswar is same as found in Nagpur district and at Cuttack, it is even less. But at both the places fertility rate is higher than it is found in Calcutta by M.V.Raman. The age specific fertility pattern at Bhubaneswar and Cuttack shows gradual decline in rate; as found in Uttar Pradesh (J.N.Sinha) and Calcutta (M.V.Raman). The finding at Bhubaneswar and Cuttack probably suggests a trend towards decline in fertility which has been already occurred earlier in western countries. The younger generation are more conscious about their fertility performance.

AGE AT MENARCHE AND FERTILITY:

The age at menarche is the important physiological phenomenon in human life. Because it is an event after which the women become ready to take part in fertility performance.

The average age at menarche in India is 13.17 ± 0.02. According to Pearl (1939), the age at menarche in hotter climate is lesser. But Mills and Ogle (1936, 1937),
stated that "Sexual maturity in tropical countries comes fully two years later than in most stimulating temperate regions". They also demonstrated that moist heat delays the onset of cycles. There are also other subsequent studies that support the view that in a tropical climate the age at menarche is later than in a temperate climate. Ellis (1950) worked among two groups of people of Nigeria where the menarcheal age was 14.22 and 14.40 whereas in England it is 13.73. Age at menarche not only depends on climate, but also on heredity and body built. Keys (1950) found that Yugoslavian girls, those living on high protein diet, experienced menarche earlier than those living on carbohydrate diet.

Urban and upper class girls generally menstruate earlier than the rural and lower class girls of the same region (Pear 1930, Sen 1953, Popenos 1926). This is due to higher intake of protein diet by the urban girls which enhances the process of growth.

The average age at menarche for the women of Bhubaneswar and Cuttack are 13.4 years and 13.5 years respectively. It is almost same in both the places. The menarcheal age is higher than average menarcheal age of Indian girls.
The age at menarche has also got some influence on fertility pattern. Study in Japanese women (Makuda and Hori 1939) and on United States (Mason and Israel 1951) suggest that the frequency of sterile women is higher among women who have later menarche than among those who have earlier menarche.

Intensive and carefully controlled interview data reported by Beebe from a study in a Southern mountain region of the United States, where the early marriage is common, and where there is little contraceptive practice, shows that the interval between puberty and first pregnancy is highly variable and is not systematically related to age at menarche. But the average interval required for conception declines sharply in this series as age at beginning of conjugal experience advances (Gilbert W. Beebe, Contraception and Fertility in Southern Appalachians Baltimore, 1942 p. 70).

The average fertility rate at Bhubaneswar and Cuttack are 3.1 and 3.4. But the women who matured earlier at the age of 10-11 years have the fertility rate 3.4 and 4.8 at Bhubaneswar and Cuttack respectively. The fertility rate gradually decreases with the increase of menarcheal age. It is lowest (2.1) among the women who matured at the age
of 16 to 17 years at Bhubanecor and it is 3.1 at Cuttack who matured at the age of 15 to 16 years. The fertility rate is lowest among the women who matured at the latter age, though the difference is insignificant. The fertility rate at Bhubanecor and Cuttack shows negative relation with the age at maturity, and this is due to longer period of reproductive span with chance of higher number conceptions among the women, who matured earlier. According to Hindu custom the parents do not prefer to keep the grown up girls unmarried for longer period, which leads to early marriage providing larger reproductive period. The fertility rate of women of different age group considered separately do not show gradual decrease with the increase of age at menarche. Only the women who have completed fertility period demonstrated a gradual decrease of fertility with the increase of age at menarche. The numbers of women becoming mature very early and very late are comparatively small in number. If these women are excluded, then we observe that in both the cities, fertility rate of women attending puberty before 13 years is higher than those of the women who attended puberty after 13 years. The fertility rate is highest for the wives who matured within 12 - 13 years and more than the wives who matured c/ i.e. before 12 years. It is most probably due to the fac
though they matured earlier, they did not marry earlier. Age at menarche has influence on fertility only when the marriage takes place soon after the maturity or where the age at marriage is low or where child marriage is prevalent. Adequate data are not available for studying the association between age at menarche and fertility.

AGE AT MARRIAGE AND FERTILITY:

The age at marriage is the most important socio-biological factor, after which the girls legally participate in reproduction.

On the national average, the age of girls at wedding and at effective marriage have increased markedly in recent decades. Between the census of 1921 and that of 1961, average age of women at marriage increased by 1.9 years from 13.99 years to 15.33 years. The rise in average age at effective marriage was 1.12 years, from 15.22 to 16.41 years as reported by rural women in a National sample survey (1921 to 1956 - 1960). A sharper rise of 2.32 years was shown for urban women (from 15.10 to 17.42 years) during this period.

Men's average age at marriage increased in lesser degree i.e. only by 0.79 years between 1921 and 1961 census,
from 20.80 to 21.59 years. Male average age at effective marriage according to National Sample Survey data, rose in the comparable period by 1.07 years for the rural men (from 20.83 years to 21.90 years) and for urban men from 22.04 to 22.89 years (Agarwala 1962 a: 63 - 64; 1966-62 NSS Number 154, 1970: 4 - 6).

A National Sample Survey of 1960-61 yielded an average age at marriage of 18.45 years for urban women in Kerala (NSS Number 116, 1967: 18). But 1961 census gives average age at marriage as 17.46 years for Punjab, 18.14 years for Madras (Tamil Nadu), 18.54 years for Assam, 19.97 for Travancore in Southern Kerala (Agarwala 1966: 32, 67 also Jain 1967 a: 26 - 27). But According to 1971 census in West-Bengal and Assam urban male age at marriage is 25.9 years and for female it is 19.1 years. In Kerala the corresponding ages are 27.8 years and 20.8 years for male and female respectively. In all the cases the age at marriage in urban areas is higher than what is observed in rural areas.

In Orissa according to 1971 census age at marriage for urban female is 16.9 years and urban male 23.4 years. But the mean age at marriage for rural women reported by Malleswar (1972) is 16.8 and 16.09 years by Pakrasi (1975).
The average age at marriage among the interviewees of Bhubaneswar and Cuttack (1978) are 24.4 years and 25 years respectively for the men and 17.7 years and 18.4 years for the women. The age at marriage in both the places is lower than those found in other urban areas like Assam, Bengal and Kerala but it is higher than the average urban age at marriage of males and females in 1971 census.

Though the average age at marriage for women is gradually increasing, child marriage is still in practice. The data obtained from Bhubaneswar and Cuttack show that 2.53% and 1.01% women (respectively) married before puberty, either before 13 years or within 13-15 years. It is mostly found among the Brahmins, also among the Khandayats and lower castes but absent among the Karans.

The age of women at marriage is of considerable importance in determining the fertility performance of the couples as only after marriage she is socially allowed to take part in reproduction. If one marries in a lower age than the reproductive span is more in comparison to late marriages or the chance of having number of children is more in first case. The effect of an increase in age at marriage
on fertility is due to lessening of reproductive span. It is difficult to estimate the actual reduction in fertility occurring from a specified increase in age at marriage. If the mean age at marriage for all Indian women were raised from 16.8 to 20.5 years, according to a computer simulation, the birth rate would be reduced by 23% after 20 years.

William Leasure (1963) has shown from study of Turkey marriage patterns, that, when the singulate mean age at marriage changes from 19.7 years to 27.2 years, the birth rate declines from 50% to 33% or about 34%.

The control of fertility in Europe prior to 19th century was achieved mainly through change of the age at marriage of the women, i.e., by raising the age at marriage (Lorrimer).

Age at first marriage of the Sherpa women was 25.6 years (after average 8 years of menarche) and live births varies from 5 to 7, by Parson (1976). The fertility of Sherpa and Tibetan women living at high altitudes over 3400 meters in Nepal are low, relative to low altitude peasant population. This may be associated with retarded menarcheal age and traditional delay of marriage and religious practices.
promote male and female celibacy (Charles A. Voight and Ivan Q. Paxson and others).

The fertility study by different workers in different places of India also shows negative correlation between female age at marriage and fertility performance. According to Poona Survey (V.M. Dandekar and K. Dandekar 1963), fertility rate in the city is higher for women who married before 15 years than those married between 15 and 19 years and those married after 19 years.

The National Sample Survey finds that women married before the age of 15 years are low in fertility at various marriage duration up to 22 years but after 22 years of marriage, there is a little difference between them and the other women in both the urban and rural area (A.D. Gupta).

The United Nations Demographic Survey in Mysore state by C. Chandrashekharan reported that overall fertility would be reduced roughly by 15% if no women married before 18 years of age and if the fertility pattern after the age of 18 remained as it is at present. The Mysore study shows that female marrying between the age 14 and 17 years gave birth to 6.9 children and between 18 and 21 years gave birth to 4.7 children.
The investigation carried out by Registrar General of India (A. Gopalswami) in 1961 on rural and urban couples in 4 selected states like Uttar Pradesh, Jammu-Kashmir, Punjab and Kerala showed an association of postponement of marriage and reduction in the number of children born.

Dr. D.N. Majumdar found in Kanpur that the women marrying within 16 years give birth to 6.3 children while those marrying after 19, give birth to 6.0 children. In Calcutta, Madras, Lucknow and Delhi studies, a difference between 0.5 and 1.0 child has been found between early and late married women.

Drivers' study in Nagpur district (1963) shows gradual decrease in fertility rate with the increase of age at marriage. The mean number of children overborn is 5.3 for those who married before reaching 13 years of age; 4.1 for those who married between 13-17 years of age, 3.5 or those who married at 18 years of age or above. He also explained that, those who married late (after 18 years) tend to be younger women and this may account for their relatively low fertility.

The Registrar General of India has collected data on fertility (1964) on a national scale. He found that
females marrying between ages 18 and 22 (Mid year 20.6) or later give birth to a smaller number of children than those marrying by age of 18 years.

Large number of studies conducted in various part of the country (N.S.S. 1960 - 61; Agarwala 1972; Chandrasekharan; 1961; Goyal; 1975) have shown inverse relationship between age at marriage of women and their fertility. The inverse relationship is also found between these two variables at Madhya Pradesh, Rajasthan and Uttar Pradesh, where female age at marriage is low and crude birth rate is more. At Kerala age at marriage is highest and birth rate is lowest (Social change, vol.11, Number 3 and 4, Sep - Dec., 1981).

Females in India start producing from the age of 15 - 19 and complete 74 percent of their maternity by age 20 - 34 years and 90 percent by age 35 - 39 years (S.N. Agarwala 1964). The most fertile period in India is between ages 20 - 34 years. Agarwala (1966) also estimated that if the minimum age at marriage for women were actually 20 years, the eventual decrease in Indian birth rate would be about 30%. According to him women of Kerala marry at about an average age of 20 and yet produce as many children as do Punjabi women.
who marry at an average age of about 17.5 years. But he concluded that, throughout India, within each region or group those women who marry markedly later than the average age at effective marriage for their group have significantly fewer children than those who marry earlier.

The fertility rate according to age at marriage also varies at Bhubaneswar and Cuttack. The average fertility rate at Bhubaneswar gradually decreases from 5.1 (who marry at the age of below 13 years) to 1.8 (who marry at the age of 25 years and above) with the increase of age at marriage. Here the average age at marriage is 17.7 with the average fertility rate 3.1 and the fertility rate is more than the average, where the marriage is earlier than the average age. The fertility rate gradually decreases compared to the average fertility rate with the increase of average age at marriage. At Cuttack for the women the average age at marriage is 18.4 years and fertility rate is 3.4, which decreases with the increase of age at marriage. Only very slight exception is found for the women who married at the age of 13-15 years who have the fertility rate as 4.7 while those who married below 13 years have the fertility rate as 4.6. Of course the deviation is negligible. At both the places the
fertility rate remarkably reduces when the age at marriage increases to above 20 years. The fertility rate reduces nearly to half when the age at marriage increases to 25 years and above. When fertility rate of the couples is analysed according to the present age of wife then it becomes more apparent that with the increase of age at marriage the fertility rate decreases. The fertility rate is almost equal or more for the women who married at the age of 13 - 16 years than those who married before 13 years. Among the women who married before 13 years, some of had pre-puberty marriage, which has got no effect on actual fertility performance as the effective reproductive life started later. The human female does not develop into full reproductive maturity for several years after her first menstruation. In that period there is significantly less chance of conception. The Indian women who begin their effective marriage soon after their first menstruation have a lower average interval between effective marriage and first child birth, than the women who marry later (Mandelbun 1958, Montagu 1957, Agarwala 1966).

The finding at Bhubaneswar and Cuttack bear similarity with many studies at different urban places of India by workers like Agarwala, Chandreshkheran, Dandekar
etc. When the fertility pattern of Bhubaneswar and Cuttack is compared then it is found that at Bhubaneswar age at marriage (17.7) is less and fertility rate (3.1) is also less whereas at Cuttack the age at marriage is higher (18.4) and fertility rate (3.4) is more than Bhubaneswar comparable to the finding at Kerala and Punjab by Agarwala). But at both the places the rate reduces with the increase of age at marriage which supports Agarwala's explanation (increase age at marriage has significant effect in a particular group or region etc.).

In all the studies it has been found that the early age at marriage has association with high fertility. Gosle and Tye have demonstrated that postponement of marriage can contribute substantially to reduction in the birth rates and population growth. K.G. Basavarajappa also opined that the female marrying later than 19 years has approximately 1 child less than marrying between 15 - 19 years (Eugonic Quarterly, vol.14 no.1 March, 1967).

In many studies of the Indian birth rate it has been found that, when the female age at marriage is raised from 19 to 20 years reduction of fertility varies 16% to 50% (claimed by Agarwala 1964, 1965, Goyal 1964, Zachariah and Talwar 1964).
The women marrying at higher ages tend to have fewer children, because increased age at marriage will no doubt give an opportunity for education and perhaps employment, resulting in greater maturity which will condition the decision to moderate fertility. The girls those who marry very young are usually shy and feel ashamed to let their husbands know their feelings about numerous births. In some cases also the husbands do not respect the wives' decision due to higher age difference and low education. Throughout the world, when women marry late they tend to have fewer children than those who marry early.

The age at which men marry do not have such a strong influence on the reproductive behaviour of the community, as those at which women marry. But they also reflect strongly the social attitude towards the responsibilities of married life. In our Hindu society, as a rule, husband is elder than the wife. At the same time people also do not like more difference in age between the husband and wife. So as a rule if husband's age at marriage will increase then no doubt it will influence the women's age at marriage or the female age at marriage will increase which has got direct influence on fertility. So raising the husband's age at marriage indirectly helps in reducing the reproductive span of the wives by
increasing their age at marriage and by that average child
birth is reduced.

Among urban couples of Bhubaneswar and Cuttack
age of the marriage of husbands are 24.4 years and 25 years
respectively. This average age at marriage is more than the
average reported in urban areas of India according to 1971
census, but less than the husband's average marriage age of
Kerala, Bengal and Assam etc. The average difference in age of
spouses is 7.7 years. This age difference is more among the
older groups and less among the younger couples.

DURATION OF MARRIAGE AND FERTILITY:

The analysis of relation of age at marriage
and marital duration with live births reveals that, though
positive association exists between these two variables
independently with fertility, the relation is more pronounced
in case of the duration of marriage than age at marriage.
This is because age at marriage shows the beginning of
reproductive life or contributes to the duration of effective
married life and it influences fertility through duration.

After marriage the number of births depend on
effective marital duration. The number of children which a
woman could have is roughly equal to her number of years of marital life, between puberty and menopause. But the reproductive capacity is usually reduced after the age of 45 years. The fertility of a population is highly influenced by the marital duration of the wives. This gives a better estimation of fertility rate than general fertility rate.

The authors like Basavarajappa 1963, Das and Banerjee 1964, Das 1988, Ghurye 1934, Jambunathan 1960, Krishnamurty 1968, Mukherjee 1961 Samuel 1965 showed positive correlation between fertility and marriage duration.

G.B.Saxena's study at Uttar Pradesh (Arblijnana, vol.4, 1962, Age at marriage and Fertility ) shows that fertility does not increase proportionately with the duration of married life as it is not achieved at constant rate throughout the child bearing period.

Drivers study in Nagpur District (1963) shows gradual increase of mean fertility with the increase in duration of marital life. He found that the mean number of birth is 2.9 for women who have been married for 13 - 17 years and 5.1 for those who have been married for 18 - 22 years.

The fertility study among the three caste groups, the Gounders, others and Harijans by Mohadovan from rural
Tamil Nadu population shows that, the duration of marriage is a very effective variable which regulates fertility. Fertility rate is lowest among those who marry at 20 years above as against those who marry at 17 years or below, remain more or less unchanged in all the groups even after introducing duration in the analysis. Thus the age at marriage contributes first to the existing variations in marital duration and thereby influences the process of fertility formation differently.

As the married life advances the number of children born to the mother increases. It has also been observed in our country and elsewhere that the earlier phase of the reproductive period is comparatively more fertile than the latter part. It is therefore expected that, while longer period of married life means larger number of children, the increase is not proportioned. The study of S.B.Mukherjee in Calcutta (Studies on Fertility Rates in Calcutta in 1966-67-68) shows the average childbirth is 2.7 within a marriage duration of 13 years and average total number of children is about 3.56 to 3.79 with total duration of more than 20 years.

The findings of Bhubaneswar and Cuttack also show increase in fertility rate according to the increase in
marriage duration. In both the places, the average fertility rate is 1.0 after 2 years of marital duration. It gradually increases with the increase of marital duration and when it exceeds 32 years at Bhubaneswar the average fertility rate is 7.5 and at Cuttack it is 6.4. The average duration of conjugal life is 10 years for the couples at Bhubaneswar with average fertility rate 3.1. The average duration of conjugal life per couple is 12.8 years at Cuttack, with average fertility rate 3.4. The average number of life birth per year of conjugal is 0.31 and 0.27 respectively at Bhubaneswar and Cuttack.

The actual reproductive span of women is less than the period between the age at menarche and menopause because of the existence of period of adolescent sterility and also probably of a period of pre-menopause sterility. It is also against the social norm to bear child at a late age. Though we donot have clear knowledge of the variation in the actual reproductive span among human groups and its effect on the fertility, it is certain that duration is not proportionate to fertility. Yet the duration of marriage is the important single variable which significantly can explain the major cause of the fertility difference.
The family type in the urban area like Bhubaneswar and Cuttack are mostly nuclear families. As Gore in 1968 pointed out that "in respect of family preference most of the urban respondents prefer nuclear family." At Bhubaneswar 90.7% couples and at Cuttack 87.6% couples live in nuclear families, and others are the members of joint families. The joint family system, which is very common in Hindu society is now disintegrating with the gradual urbanization and industrialisation. The individualistic tendencies are growing, the couples now like to lead independent life and by that nuclear family is the common feature in the urban areas. The percentage of joint family is more at Cuttack in comparison to Bhubaneswar as it is an old and traditional city, whereas at Bhubaneswar most of the couples are staying for service purpose, permanently settled people are less and it is of recent developed city.

The reproductive process is directly or indirectly influenced by the family structure. The influence of family on fertility differences is probably strongest in developing countries and is not substantial in developed countries on account of the higher degree of individualism in them.
The role of family structure in fertility behaviour was studied as early as 1950. Blake (1961) in her study of Jamaican fertility used family structural variable. The Princeton studies of two child families in the metropolitan United States incorporated family group variables as one of the three major categories of independent variables. Goldberg (1960) notes with regard to the Indianapolis and Princeton studies that "there is a systematic relationship between family structure and fertility. And each one attempts to show how difference in family structure (however conceptualised) have produced the pattern of differential fertility observed over the past hundred years or so." The fertility study on the basis of family structure has been done by many workers in different places. Davis (1956) reporting on family structure, observes that joint families have higher fertility than nuclear families. Lorrimer (1954) also had similar findings.

Most of the latter studies conducted in India (Poti and Dutta 1960, Driver 1963, Babarta 1964, Pakrasi and Malekar 1967 and Nag 1968) report uniformly higher fertility in nuclear families than in joint families and indicate many reasons for such findings. The study of Mohadovan among the different castes (Gounders, other castes and Harijans) also
reports higher fertility rate among the nuclear families (3.81, 4.47 and 5.38 respectively) than in joint families (3.19, 3.69 and 4.56 respectively). Poti and Dutta found from the data collected in 1956 from 600 rural households and 500 urban households Calcutta, lower fertility rate in joint family (2.53) than in the nuclear family (3.4). In India women living in joint families in rural and urban areas apparently have fewer children on the average than the nuclear families. This has been reported from many places like Delhi, West Bengal, Bombay, Lucknow, Calcutta (Pakrasi and Malekar 1967, Dutta 1961, Nag 1965, Stoeckel and Choudhury 1969, Bruch and Gendell 1971, Straus and Winkelmann 1969, Hauzain 1970), lower fertility rate in joint family was also reported by Boberta (1961) in rural Puri District of Orissa.

The study of Bhubaneswar and Cuttack shows very low percentage of joint families. In both the places the nuclear families have in average higher fertility rate (3.1 and 3.5) than in joint families (2.7 and 3.2 respectively). When the respondents are classified according to their present age then in all the age groups except the oldest age group the joint families show lower fertility rate than the nuclear families. The fertility rate of women who are 45 years and more show same fertility rate for both nuclear and joint families at
Bhubaneswar (6.4) and Cuttack (5.4). So the finding shows no difference in fertility rate in the oldest age group where the wives have completed their reproductive span and fertility rate is more natural. This resembles the Driver's study where the difference in fertility disappears when the groups (nuclear and joint families) are equated on the basis of wife's present age. The data collected from a village Singur in West Bengal (by K.K.Mathen) reports no significant difference between number of children born to women living in simple or joint family. On the whole in the present study, the fertility rate is lower in joint families than the nuclear families, as found by different workers in the urban areas like Delhi, Bombay, Lucknow and Calcutta.

The couples living in joint families have low average fertility as they have less privacy. Also the younger couples try to limit their family size, as they want to avoid the problems experienced by their close elder relations, on account of large families they had. Another possibility is that more chances exist for close and frequent contact with senior members in joint families which directly or indirectly might influence couples to observe many religious taboos for cohabitation. Since most of the Hindu religious functions prohibit intercourse during such occasions, observance of
abstinence is likely to be vigorously followed in joint families rather than nuclear families. It helps birth spacing and the elders feel ashamed when the younger start to reproduce. Though some earlier Indian studies report higher fertility rate in joint families, when age factor is taken into consideration, then the difference is very insignificant. In any event, urbanisation in India has not so far brought about any general lowering of fertility in the way it has done in Japan or Europe (Morrison 1961, Myrdol 1963). One clear reason is that, the town and cities still hold large numbers of very poor and uneducated people. Although the wealthier, better educated urban families do curtail their fertility, the poors have not the means or motivation to do so. In the town area also the poorer groups show a higher proportion of nuclear families than do the wealthier class (Mandelbaum 1970). Since poor, uneducated people have more births in average, so the higher fertilities reported for nuclear families may come out of greater poverty rather than lesser privacy and out of lack of education.

The influence of family type on fertility is not due to any chance factor. When variables like income, occupation and education, are kept constant, the trend of fertility in
joint and nuclear families do not differ much.

CASTE SYSTEM AND FERTILITY:

Caste system is important and rigid involuntary social classification among the Hindus. At Bhubaneswar among the interviewees 21.3% are Brahmins, 25.5% are Karans, 29.7% are Khandayats and rest 23.5% belong to the lower caste group. At Cuttack the proportion of different castes are - Brahmins 19.4%, Karans 24.4%, Khandayats 25.5% and rest 30.7% belong to the other lower castes.

The social activities of the people are guided by the norm of the caste. The people of different categories tend to have different fertility rates. Those who are usually in the higher ranges of the local caste hierarchy (wealthier families in a locality) tend to bear fewer children on the average, than the poor, lower ranked neighbours. Many studies have been undertaken by different workers to show the influence of caste on the fertility behaviour of its members.

Khana study shows that Jats have lower fertility rate (7.0) than the Chamaras (8.2), which is 15% more.

Results found in Nagpur district study by Driver (1963) show lowest mean fertility among Brahmins (4.1) and it
gradually increases among Martha, Kunbi, Mali, Bania and other trading castes, Sonar and others. The schedule castes had the highest mean fertility rate.

In a survey of 1413 Uttar Pradesh village couples, women over 45 years of higher caste group averaged 7.6 livebirths, intermediate rank 6.2 and those of the lowest category 5.3 (Saxena 1963).

In the survey among 2380 village couples in Banaras, Hindu women of the highest category and married for 30 years or more averaged 5.74 livebirths, those of intermediate rank 7.57 and those of lowest category 6.93 which is less than the middle category (Rle 1963).

In Mysore study regular relation between caste and fertility appears in the Bangalore city sample. There the women of 45 years and over of the highest category averaged 5.1 births, with 5.7 and 5.9, reported in other two categories.

The fertility study among the urban communities of Uttar Pradesh (Lucknow and Kanpur) by J.N.Sinha shows that there are marked and consistent difference in the average number of children born per mother which is significantly lower among the high caste Hindus than the low caste.
The investigators like Davis 1944, Dandekar 1953, Sinha 1957, Singh 1958, Rakshit 1962, Rolo 1963 and Srinivasan 1967 reported that higher the castes lower the fertility.

The inverse relation of caste status and fertility amplified in survey of many places but not in all the places. Even in rural area of Mysore, the higher status women had an average of 4.9 children as against 4.6 in each of the other two lower categories and in the towns the comparable figures were 5.7, 4.0 and 5.0 (Mysore 1961). There were also only small differences among caste categories in the survey of six villages near Delhi; women of Jats and allied groups had somewhat lower fertility in their latter years than did Brahmin or Chamar women (Agarwala 1970). The workers like Coalo and Hoover, Das Gupta, Ghosh reported that caste hierarchy is not related to fertility. Two reports of Bhate (1961) and Hussain (1963) show that relationship between caste and fertility is curvilinear and bell shaped.

The survey of Bhubaneswar and Cuttack show no association of caste structure with the fertility pattern of the couples. In both the places the Brahmans and other lower castes have equal average fertility rate. At Bhubaneswar, Khandayats have lowest fertility rate (2.9) and Karans
averaged the highest (3.2). The Brahmins and other lower castes reported the same fertility rate (3.1). At Cuttack Korans averaged the lowest (3.2), Khandayats averaged the highest (3.7), Brahmins and other castes averaged the same fertility (3.4). The fertility rate in both the places shows no regular pattern which could be related to caste status. The present study at Bhubaneswar and Cuttack shows no relationship between caste status and fertility which is different from the studies as exemplified in survey of Khana area in 1956, Saxena's study (1965) at Uttar Pradesh, Drivers study, Mysore study in Bangalore city. But it resembles the survey among the village couples in Banaras Tahasil, U.P. by Bale (1963). The study in Mysore rural area and town area (Mysore 1961). It supports the reports of Coale and Hoover, Das Gupta and Ghosh.

The work at Bhubaneswar and Cuttack shows no relation of fertility with the caste structure; perhaps in town area low caste people are not neglected as in rural area. The people in cities are not very rigid regarding the caste except in few occasions like marriage etc. Moreover among the low caste people who live in towns, most are educated, though not of very high standard service holders and they are also aware of the family planning techniques etc. as the other caste
groups. Some of the lower caste people though do their traditional work at the same time they are also service holders. So in the urban area the caste difference manifested in fertility is not very significant.

**OCCUPATION AND FERTILITY:**

Regarding the occupational status of the husbands of the interviewees at Bhubaneswar and Cuttack, there are different types of occupations and according to their occupation they are classified into different categories as discussed previously. In urban areas the occupations are of different types unlike the rural areas, where occupation is more traditional and only the educated mass seek for service. In the urban area higher percentage of people are service holders and business men. Very few are still bound to the traditional occupations. As Cuttack is an old city, the traditional workers are more and as it has been developed into an industrial centre, business men are also more in comparison to Bhubaneswar. As Bhubaneswar has developed as the capital of the state, the service holders are more, in comparison to artisans, unskilled workers and business men. The unemployed husbands are very few in both the places and they belong to the youngest age group. They are in search of service and now depending on parents.
Occupation of the husband is the most important aspect of family life as it determines the economic status of the family members in the society and it also regulates the way of life of the family. The income of the husband regulates the life pattern and accordingly the couples prefer the number of children they should have, so that they can maintain better standard of living. Due to this reason the occupation of husband has some influence on fertility pattern as it helps in changing of the outlook and attitudes towards family size.

Many demographic studies in different places show different types of relations of occupation of husband and fertility rate. The Khana study reveals that the wealthier groups of landowning Jats have significantly fewer children on the average than the poorer women of Chamar, leather workers and labourers, even though no significant differences were found in birth intervals or in contraceptive practices (Potter 1965). The Jat women of higher and wealthier status stopped having children on the average at 36.3 years and Chamar women at 38.2 years (Wyon and Gordon 1971, Potter, 1965).

The fertility survey among 2330 couples in villages near Banaras in 1956 shows that fertility rate among the different groups like Hindus of higher, intermediate and lower
categories (classified according to caste and occupational status) is almost same among those who are married for 10 - 14 years. But among the women married for 30 years, who had completed their reproductive period, or nearly so, the higher status women ended their reproductive period sooner and have fewer births (5.74) as compared to intermediate and the lower classes.

According to Kingsley Davis (analysed the census data) fertility was higher in the households of agricultural labourers and artisan than in those of the traders, professional and non-agricultural labourers.

The fertility study by J.N.Sinha in the urban community of Uttar Pradesh shows that the fertility rate among the women 45 years varies according to the husband's occupation (as 8.3 among Class-IV, 8.2 among Class-III, 7.2 in Class-II and 6.5 among the Class-I people). Among the women in the age group 40 to 44 years the fertility rate varies as 7.1, 6.9, 6.2 and 5.8 among the different occupational group starting from Class-IV to Class-I respectively.

The data collected by J.R.Roio in rural area of Banaras Tahasil, shows that the husbands with agricultural
occupation have higher fertility and collar occupation have lower fertility.

Jain’s study shows positive association of fertility with occupational grades. G.B.Saxena’s study among the different occupational groups in rural Uttar Pradesh, reports highest fertility rate among the agriculturists and gradually decreases among labourers, then artisans and petty businessmen and lowest among the service holders, like village officials, Govt. servants and teachers etc.

Fertility study by Hanasraj shows highest fertility rate among the managerial, administrative and non-technical executive occupation (4.6) and lowest among the subordinate technical occupation and service occupation (3.4).

The fertility rate in Calcutta by (S.B.Mukharjee) shows that fertility rate is highest among traders and it declines in technical professional and executive people.

The fertility study by John Stoeckel and Moqbul A. Choudhury at Camilla - Kotwalithana (Bangladesh) in 1967 suggested an inverse relation between socio-economic status and fertility. The fertility rate varies as 6.53 in
businessmen and skilled people 6.85 among farmers and 7.80 and unskilled workers.

Driver's finding (1963) shows that fertility pattern can not be distinguished on the basis of households' occupations. The mean number of children everborn is 3.9 for clerical groups; 4.9 for agricultural groups; 4.3 for both unskilled workers and traders, and 4.5 for both artisans and professionals.

In Mysore study, the wealthier women in village and towns had a higher fertility rate than the women of poorer groups, though the differences were not very large.

The survey at Bhubaneswar and Cuttack show some influence of occupational status on the fertility rate. At Bhubaneswar the unskilled workers show the highest fertility rate (3.9) and gradually it decreases in Class-IV (3.6), Class-I (3.4), Class-III (3.1), Class-II and large businessman (2.9), then it is lowest among the artisans and small businessmen (2.8). At Cuttack, the average fertility rate gradually decreases among the different occupational groups in the order - unskilled workers (4.1), Class-I (4.0), Class-IV (3.8), artisans (3.7), small businessmen (3.5),
large businessmen (3.4), Class-III (3.3) and Class-II (2.9). The fertility performance among the different occupational groups in both the places does not increase or decrease in a regular pattern as found in Driver's study and Mysore study. But in general it can be summarized that higher fertility rate is found among the lower occupation groups but there is no systematic increase or decrease with the increase of occupational status of the husband. The poorer people have higher fertility rate than the wealthier and higher ranked people. But the difference in the rate vanishes among the higher ranked couples. The wives of the Class-I employees belong to the oldest age group, who have already completed their reproduction and the use of contraception is less, so the fertility rate is more than other low ranked service holders. The Class-II employees at Cuttack and large business people at Bhubaneswar have lowest fertility rate (2.9). The investigation shows that poorer people at both the places have high fertility rate, but it follows no regular path of increase or decrease with the occupation.

The lower occupational groups average higher livebirths due to many reasons. The children of wealthier
families have a higher rate of survival. Whereas among the children of lower occupational groups, more children die in infancy. So the women of lower and poorer groups tend to bear more children to supplement the loss. As the children die earlier, these women have shorter lactation period and anovulatory period, so chance of next conception is more. The wealthier families generate most of the educated people, who are more conscious of their fertility pattern.

EMPLOYMENT STATUS OF WOMEN AND FERTILITY:

The women in the urban areas have better facilities for education and employment. Judith Blake argues that foregoing employment is an indirect cost that must be considered by the working wife and that this indirect cost has a negative influence on the working wife to bear additional children. In Orissa the opportunity for ladies to work outside the house is not very high. Of course, recently the girls and to some extent the parents are also in favour of employment of the women. It has been found that among the interviewees at Bhubaneswar and Cuttack only 6.2% and 7.5% wives are employed. When the employed women are grouped according to their age then it is found that highest percentage of working wives (9.0 and 8.6 at
Dhurbaeswar and Cuttack respectively belong to the age group 25 to 34 years. The frequency decreases among the higher age groups. But the younger age group are in very low proportion in the samples at Bhubaneswar and Cuttack. Because the working girls usually marry late due to education for longer period. Those who are married, have married recently and have no issue, so those cases are discarded as they have not taken part in fertility. The girls who go for higher study and enter into service, usually marry lately so higher percentage of working women belong to the age group 25 - 34 years. The employment status of women shows that now the younger women are in favour of employment in order to lead a better way of life.

The women's employment status has bearings on the fertility rate of the couples. Higher number of children are definitely a liability for the employed mothers. The working mothers are usually more conscious about the health of their children and themselves. As they come in contact with more educated persons they have also better knowledge of different contraceptives.

Ridley (1968) stated that "women's participation in labour force" leads to a more egalitarian relationship
between husbands and wives, which in turn, is said to be related to lower fertility. Wellors (1969) adds that wives manifest lower fertility behaviour in wife-dominant and egalitarian families, rather than in husband-dominant families. Bernhardt's study (1964-66, Sweden) reports that families where the wives contribute to family income have substantially lower fertility. But when husband's income scale is very high, there is little difference in family size of working or non-working women.

Judith Blake contends that, employment often entails satisfaction alternative to children such as companionship, recreation, stimulation and creative activity or the means to such satisfaction in the form of financial remuneration.

In the Indianapolis study, wife's work history was one of the very few variables strongly correlated with planning status and fertility, even when socio-economic status was controlled (Freedman 1961). In India this variable is yet to assume importance in view of the very high rate of illiteracy prevailing among women, lack of employment opportunities and customs among women of higher castes people generally are not in favour of women working outside the home.
The Poona survey by V. M. Dandekar and K. Dandekar reports that the fertility rate of women doing housework as compared with that of women employed outside the home is high in the city but low in the new-city area. The survey of Nasik and Kolabe district show that fertility is independent of women's employment whereas Driver in 1963 showed positive relation between women's employment and fertility. Women employment in itself is not very common feature in India; which is a significant force in lowering fertility, in some more industrialized societies educated women who are employed have fewer children, but it is rather difficult to say whether this is more as a consequence of their education or their employment. Uneducated women who must work to help, keep their families afloat do not have significantly fewer children on the average than they would if they were not working (Driver 1963, Minkler, 1970, Dillon 1970).

The survey of Bhubaneshwar and Cuttack show that average fertility rate of the employed women (2.5 and 2.4 respectively) is remarkably lesser than the unemployed women (3.3 and 3.5). When the fertility rate is discussed according to the present age of the wives then also it is
found that in all the age groups the employed mothers have lower fertility rate than the unemployed mothers. The difference is more prominent in the older age groups, which show strong impact of the employment status of the wives on fertility rate. Among the younger age groups most of the women are aware of different family planning techniques and are also conscious of the number of children they should have. But in the oldest age group where the reproduction is more natural and have already completed their reproductive life, there the employed women averaged lesser number of children. The highest difference in fertility rate between the employed (4.1 at Bhubaneswar and 2.6 at Cuttack) and unemployed mothers (5.4 at Bhubaneswar and 4.5 at Cuttack) is observed in the age group 35 to 44 years.

The debate on the relation between the employment of women and fertility is inconclusive. The Mysore population study (U.N. 1961) suggests a definite association between fertility and the working status of women. The average number of births is systematically lower in all age groups and strata for gainfully occupied women. It has been suggested that fertility does not decline when the women’s employment is unaccompanied by education. For example; the female labourers,
no doubt belong to the working class but have higher fertility. But in town area working women are usually educated, except very few (belong to lower castes and do same traditional work). So for them children are burden, and they try to limit their family size. The employment accompanied with education certainly has got some influence in lowering the fertility. The present study supports that employment status of women have significant effect in lowering of fertility.

INCOME AND FERTILITY:

Income is definitely one of the important factor which regulates the life pattern of the people. Every undeveloped or economically backward country is characterised by high fertility, by a birth rate of 40 per 1,000 or higher and by a completed size of family of 5.6 or more (Ansley J. Coale) and also a large section live in below poverty line. The economic advantage for reduced fertility in terms of growth in income per consumer is slow at first, but it accumulates to impressive dimensions as time goes by. An economic deterioration and consequently 5% drop in fertility rate was observed in the United States between November, 1962 and January, 1963.

With regard to the influence of income on fertility
behaviour, many explanation have been given by many workers. The inverse relation of income and fertility is found in many surveys. In Europe also several recent studies emphasize the lessening of class difference in fertility. Johnson (1960) finds that "the often observed inverse association of fertility with socio-economic status is still present in some and possibly in a majority of the industrialized countries of Europe. But when it exists, it has, with few exceptions been significantly modified. In general, the higher professionals and the wealthier classes no longer have the smallest families; this position is now occupied by intermediate occupational groups and by married couples of average means."

The information from some places regarding children everborn according to family income also reveal a slightly 'U' shaped curve pattern. Extremely poor and the wealthy have higher fertility levels, while the middle classes tend to have the lowest fertility. Among the nonwhite population of U.S.A., the pattern is not of strong inverse relationship, with a hint that very wealthy Negroes are more fertile than middle class Negroes (Donald J. Bogus).

Goldberg (1958) also predicts that "the traditional indicators, such as income or occupation, are not
likely to account for a large part of the variance in fertility in the future, because these indicators probably will not have the same impact they once had in determining the family's role in relation to other institutions of the community. Wrong (1958) on the basis of his data from Canada, England and U.S.A. states that "middle class standard of living have been brought within the reach of the least privileged strata and made popular by the new mass media. Accordingly it is not surprising to find that class fertility differences have diminished in the past thirty years." Ryder (1959) feels that though class difference in fertility seem to be diminishing, the basic relationship remains inverse.

The relation of income and fertility has been found in many surveys in India. The data collected by National Sample Survey in 1960-61 from a sample of 15269 urban couples are classified into five categories of income groups. The couples in the richest quartile had an average of 2.84 live births and the poorest average of 4.53. The comparable children still living were 2.18 and 3.23 (N.S.S.Number 116, 1967). Six categories of per capita monthly expenditure were noted in the sample of 39469 rural respondents in the round of
1964-65. In the top level the annual birth rate per thousand persons was 32.30; whereas for lowest group it was 44.28. Among the 23720 urban respondents, the comparable figures were 25.35 and 43.05 (N.S.S. Number 186, 1970). Some surveys, however, do not reflect such regular gradations and show that the people in the highest income categories also have high fertility (Mysore study of 1961, Agarwala 1969). It may well indicate the first phase of a general process where the newly prospering families have more births for a particular time because their improved standard of nutrition and health brings about fewer miscarriages, less sterility, and fewer deaths among women before they have completed their reproductive span. The other part of the process begins when such prospering families adopt patterns of higher income group and higher classes. These standards require greater sex discipline and ultimately result in reducing the fertility rate.

According to the report of Driver (1963) in Nagpur area, the mean number of children everborn ranges from 3.8 for those earning 1500 - 1999 rupees per year to 4.8 for those earning 1000-1499 rupees. The lowest income group under 500 rupees and the highest income group over 2000 rupees have identical (4.6) live births which indicates
the absence of any direct or indirect association between fertility and income. According to Dandekar and Davis also, there is no correlation between fertility and income. Like the Driver's study, the Mysore report by Agarwala also shows that higher income categories have high fertility rate.

N.V. Sovani's report on "The Social Survey of Kolhapur City", does not show any association of high fertility with higher grade occupation or higher income.

Poona study by Dandekar shows that though fertility declines in the higher income group in the city it remains constant in the rural areas in all income groups.

In the Nasik, Kolba District (N.V. Sovani and Dandekar) the urban and rural women do not differ in their fertility according to occupational or income status of their husbands.

The fertility study by J.N. Sinha in the urban community of Uttar Pradesh show inverse correlation of fertility and income. Decline in fertility is not appreciable until income rises upto Rs. 300/- per month. The women between 20 - 24 years, above the income level of Rs. 300/- per month, consistently have smaller families than those below this level. The proportion
The fertility study by K. Mohadevan among three caste groups of Tamil Nadu shows that economic status is positively associated with fertility belonging to age categories of 21 to 24 and 35 to 49, with a slight depression at the highest income categories of Rs.3000/- or more per annum. He suggested that economic deprivation may lead to deterioration in general hygiene and health and consequently results in more foetal wastages among the lower income groups.

In the present study among the people of Bhubaneswar and Cuttack, higher percentage (39.1 and 37.4 respectively) have monthly income of Rs.300/- to Rs.500/-. Very few (6.1% at Bhubaneswar and 12.8% at Cuttack) have monthly income of more than Rs.1000/- per month. 21.5% families at Bhubaneswar and 14.2% families at Cuttack are in lowest income status (with Rs.300/- per month). In total more percentage of people belong to the middle income group. Among the respondents of Bhubaneswar the highest average fertility rate (3.4) is found among the economic group having monthly income of 201 - 300 rupees. The couples having monthly income of 301-500 rupees have lower fertility (2.9) than the previous group. The fertility rate then gradually decreases and is lowest (2.3)
among the highest income group (more than 2000 rupees per month). In both the places the unemployed couples have very low fertility, as most of them are very young, have just entered into married life and mostly living in joint families and depending on parents. At Cuttack also highest fertility rate is found among the income group i.e. with an income of 201 - 300 rupees per month. Then fertility rate gradually decreases and is lowest among the couples having monthly income more than Rs.1500/- . Very little difference in fertility (0.1) is found between the income group of 301 - 500 rupees (3.5) and 501 - 700 rupees (3.6). Age-wise classification of wife shows that in all the age groups the fertility rate gradually decreases in those case where monthly income exceeds Rs.700/- and is lowest among the highest income group. Among the oldest age group at Cuttack, the fertility rate gradually decreases starting from income group Rs.200/- per month (7.0) to monthly income of Rs.3000/- per month (3.4) whereas in the same age group at Bhubaneswar the average fertility rate of the couples with monthly income of Rs.200/- per month is lower than some other higher income groups. It is presumably due to smaller number of sample size, with monthly income of Rs.200/- at Bhubaneswar. But in general, among different economic groups at Bhubaneswar and Cuttack
the fertility rate shows regular decrease where the monthly income exceeds 500 rupees per month. It is lower in the higher income groups and lowest among the highest income group. It can be summarized that fertility rate is more in lower income group, then reduces in the middle income group and becomes lowest among the highest income group. The fertility pattern of Bhubaneswar and Cuttack shows gradual decrease in fertility rate with the increase of family income. But in some age groups also the highest economic groups have same fertility rate as the lower income group. Of course, the decrease in fertility rate is not very much in comparison with the increase of monthly income. But in all the cases the middle class people have lower child births. The inverse relation of income and fertility with little exceptions is found in the survey at Bhubaneswar and Cuttack as is found in many surveys in India.

With regards to the influence of income on fertility behaviour, Freedman (1959) puts forth certain explanations for its conventional inverse relationship. The income and child birth can be discussed as two sides of a coin. There are several possible factors that may have forced the higher income groups to have fewer children. One important cause may have been that children represent an economic burden.
impending social mobility. Another possible reason is that location of many of the couples with higher incomes in large cities where fertility is usually low. Another factor may be the less familiastic orientation of the economically advantaged classes. It must not be supposed that they are uninterested in their children but they had other cultural interests. In many cases the wives are employed and probably because of their better education, they may have reduced the importance of large families. Under these circumstances the income variable can be counted as one of the important variables to explain fertility pattern. But fertility is not always higher in the lower income groups, some variations are also found in the influence of economic condition on fertility rate. Freedman (1963) explains the reasons for their shift in the traditional relationship of classes with fertility. According to her, "large families were more prevalent among the poor and uneducated, Recently these differentials have narrowed or then been reversed in some places. This change was predicted by a number of authors for two reasons; as our population has become more universally educated and urbanized, knowledge of contraception is no longer limited to the higher socio-economic group so that an effective choice of desired number of children as possible for all strata, and as our
economy has lost its rural character, children have lost their economic utility. The negative association of fertility with socio-economic status diminishes and tends to become positive among couples with several generations of urban living.

EDUCATION AND FERTILITY:

In developing nations like India where population growth is impending economic development, one of the controversial topics is the relation between education and fertility. It is believed that in western world fertility declines have been caused, at least in part by advances in education for the general population (Stykos 1970). The standard of education of the people shows the prosperity of the country. Education enables the persons for better occupation, and better economic condition. It also changes the outlook of the people, moreover it changes the attitudes towards the family size. So the education is very closely related with the fertility pattern.

Education of an individual may increase his earning capacity and then lower the birth rate. All available evidence show that higher the educational and social status
of the individual and the family; the lower is the fertility. 

Prolonged education usually means postponed marriages. The 
Census Commissioner of India for 1931 census remarks - 

"It seems definitely established that intellectual activity 
acts as a check upon fertility". A higher standard of living 
may affect the rate of reproduction, therefore, in order to 
bring down fertility, increase in education and culture are 
involved. It seems definitely that education acts as a check 
upon fertility but also the psychological appreciation of a 
higher probability of survival is necessary in the community 
to bring down the birth rate.

Education of both husband and wife is important in 
Orissa, but the education status of the head (husband) is 
more significant in determining the level of fertility in 
the households. The opinion of the husband regarding the family 
size or number of children is more important than wife's 
decision. The importance of husbands education in family size 
has been studied by many workers.

The information collected by Hussain from Lucknow 
shows highest fertility rate (187.84 per thousand) among the 
iliterate husbands and lowest among those having more than
secondary education (107.73 per thousand). Less than 2% of the illiterate heads preferred '2' children whereas 24% of higher educated heads prefer two children.

The Driver's study (1963) at Nagpur district shows considerable variation in fertility on the basis of husband's educational achievement. According to his finding, the mean number of children overborn is 5.0 for the uneducated husbands and 3.9 for both the high school and college groups. In between the two extremes, 4.3 average live births are found both in the primary school and matriculates and 4.1 live births in the middle school group. In the young age groups there is no regular decrease in fertility rate with increase of education but fertility rate is lower in college educated groups. In the oldest age group the fertility rate is more among the matriculates (7.0), and college educated group (7.1) than lower educational groups and uneducated (6.6).

The educational status of Bhubaneswar and Cuttack shows that in the sample 1.2% husbands at Bhubaneswar and 2.1% husbands at Cuttack are still illiterate. Among all the educational groups, highest percentages (23.8 at Bhubaneswar, 29.5 at Cuttack) are graduates. In total 67.0% and 73.1% husbands at Bhubaneswar and Cuttack respectively have passed
matriculation. The male literacy in the sample is more than the state average literacy in 1971 census (29%), which is expected in the urban areas.

The fertility pattern according to the husbands education at Bhubaneswar and Cuttack, shows decrease in fertility rate with the increase of husbands educational status. At Bhubaneswar highest fertility rate (3.8) is found among the illiterates and lowest among the post-graduates husbands. But some exceptions are found among the high school educated group and matriculates. The matriculates have higher fertility rate (3.3) than who have high school education (3.1). No difference is found in fertility rate among the husbands having intermediate education and graduation (2.8). At Cuttack illiterate husbands averaged the highest fertility rate (4.5) and it gradually lowers with the higher education of the husband and lowest among the post-graduates (2.7). Practically there is no difference between those who have high school education and those who have passed high school standard (Matriculation). Similar is the case among the people who have passed intermediate or are graduation.

The fertility performance can be related with the level of education when the population is classified in 4 main
categories: the illiterates, the matriculates, the graduates and the post-graduates. All the four categories demonstrate gradual decrease of fertility as educational level goes up.

In the youngest age group (below 25 years) at both the places no regular decrease of fertility rate is noticed with the increase of husband's education as noted by Driver. But it is highest among illiterates (2.5) at Cuttack and lowest among the post-graduates (1.5). At Bhubaneswar in this age group fertility rate is highest among the primary educateds (1.8), which is more than the illiterates (1.5) but lowest among the post-graduates. The difference in fertility rate in the different educational groups shows that education has some influence on the fertility performances of the couples. But some of the younger people though less educated in the city are well acquainted with family planning and conscious of their family size. Moreover, as they are young and their duration of married life is small to demonstrate any difference in fertility rate according to educational standard. But in general it is lowest among the college educateds and highest among the illiterates and primary school educateds. In the next higher age group (25 - 34 years) at Bhubaneswar
and Cuttack highest fertility rate (3.9 and 3.8 respectively) is found among the husbands having middle school education then gradually decreases with increase of education being lowest among the post-graduates (2.8 and 2.6 respectively). In the age group (35 to 44 years) no influence of husband's education on fertility (at Bhubaneswar) is evident upto matriculation level and after that it decreases being lowest among the post-graduates (4.0). But at Cuttack no difference in fertility rate is found upto middle school education but then it gradually decreases with the increase of educational standard of the husband and lowest among the graduates (3.5).

In the oldest age group (45 years and above), at Bhubaneswar highest fertility rate (7.3) is found among the husbands having graduation and lowest among the uneducated (5.0). But at Cuttack it is highest among the high school educated (7.0) and lowest among the post-graduates (5.1). At Bhubaneswar the fertility rate is reverse perhaps due to the smaller sample size of this age group.

In general at Bhubaneswar and Cuttack the fertility rate of the couples show the inverse relation with husband's education starting from no education, primary education, primary + education matriculation and college education. But when
The education of women is more important than husbands education in determining the fertility pattern of the couples. Inverse relationship between education and fertility, not only depends on educational standard of husband, but also on the educational level of wife. For this reason, Government of India is giving more importance on "Female Education" and gradually literacy percentage of the women is increasing. Among the interviewees of Bhubaneswar and Cuttack only 11.5% and 12.5% women are illiterate and the rest are literate. Among them 26.2% and 27.2% women at Bhubaneswar and Cuttack respectively have passed matriculation and 9.3% and 11.4% women have college education. The literate percentage is more in both the places in comparison to total female literate percentage in Orissa according to 1971 census. The literacy and higher education among the interviewees increases with the decrease of present age. The younger groups have attained higher educational standard than the older groups.

The relation of women education with fertility behaviour has been studied by different workers in developing
countries and also in India.

The effect of education on fertility rate is also very clearly evidenced in developed countries. In Great Britain (the figures are from the Royal Commission Report on population for women that married during 1920 - 34) among the non-manual workers, the number of children was 2.29 for parents, both of whom had a level of education not higher than elementary, and only 1.75 for those when both had higher education than elementary. Among the manual workers the corresponding respective numbers of children were 2.80 and 2.23. Obviously in both the categories of workers the number of children decreased with rising level of education.

In United States in 1960 the expected fertility for white women with college education and those with four years of high school education was 3 children while those having 1 to 3 years of schooling in high school are expected to have 3.2 children. Those with grade-school education are expected to have 3.7 children. The data of Great Britain and the United States showed a regular declining trend in fertility with rising level of education.

A negative association between fertility and educational level has been observed in the several studies in India as in abroad.
The demographic study by M.V. Raman at Calcutta also supports the inverse relationship of education with fertility. His finding shows that number of children per woman were 3.2, 3.4, 2.9, 1.9 and 1.4 according to the educational standard of wife with no formal schooling, primary, secondary, school final or equivalent and above respectively.

Fertility study at Delhi by Goyal shows direct impact of education on fertility. His finding shows gradual decrease in fertility rate with the increase of educational level (years of school going starting from illiterate with mean number of children of 4.50 to 16 years of school going where average number of children is 2.68).

According to Jain, education is negatively associated with fertility, particularly with increase in education level of wife. Education differential in fertility among urban residents seem to be more prominent than rural residents.

The education of the girls is particularly relevant to family planning policies because increased public investment in it should bring about reduced fertility relatively quicker and with continuing effect. The relevant surveys show
that the women who have attended high school or more than that, have significantly fewer children than those with less education. But the women who are barely literate averaged more children than the illiterates. Perhaps this is a reflection of the trend, that those poor families whose members begin to attain better nutrition and health resources, increase their fertility for a time before taking on the higher status behaviour patterns with lower fertility (Dutta 1961: 78, Hawthorn 1970: 76).

In the report of NSS 1960-61, where 16286 urban women aged 47 and more were interviewed and their responses were grouped according to six educational classes from "illiterate" to "college and above", the average number of children born alive to women who had had only primary schooling was 6.57, for those with a middle school education it was 5.04 and for matriculates it was 4.58. The sharpest decrease was between the later and 2.01 average for those who had attended college (NSS Number 116, 1967: 22).

The NSS report of 1961 - 62 on rural samples (32452) women and urban samples of 22301 women, though neither is stratified by age (NSS Number 154, 1970: 12),
show a decrease in average number of children born alive with an increase in women's educational class above the primary level. The rural women show largest decrease between primary (2.62) and middle school level (2.31). The largest decline in the urban sample comes at higher level i.e. between the middle school (2.60) and secondary school level (2.06).

In the Mysore study, in Bangalore city respondents were classified into 4 categories (Mysore 1961: 122, 123). Not much difference in fertility appeared among the city women with high school and university education. But there was a sharp decline in the average number of children born alive (for ever married women aged 45 years and above) in the middle school category (5.5) and for women of high school and university education (3.9). From this report it is clear that only a year or two of schooling results in little or no reduction in fertility but a high school education or longer period of schooling regularly has significant effect. In Dr.vers survey in Nagpur district (1963) the women (2314) were classified into 3 categories on basis of education; none, primary school, above primary school. There was a sharp decline in fertility in the highest category. The mean fertility of the primary school category was 4.7 whereas it is 3.8 for
those with the education above the primary level.

The survey taken on 4420 households in Lucknow city in 1966–67 (Hussain 1970 a: 49, 120; 1970b), show a steady decline in general fertility rate (per thousand) with increasing education from illiterate (163.89) to the next category "below primary" (145.16), through "Primary" (102.04) "Secondary" (96.30) and "Higher" (63.33). The educated girls reduce their fertility rate as schooling is a direct cause of late marriage (as during attending the school or college they do not marry). Hence educated girls tend to be married at a later average age; some of them late enough to help to reduce the total number of children they eventually bear (Mysore 1961: 98-99, 108 Driver 1963: 71, NSS Number 154, 1970.4, Hussain 1970 a: 29-30; 1970b: 134 – 136).

The fertility pattern of the couples of Bhubaneswar and Cuttack show direct influence of educational status of the wives. In both the places the fertility rate gradually decreases starting from illiterates (4.3 and 4.7 respectively) to the post-graduate degree holders (1.3 and 2.1). But at Bhubaneswar the wives having matriculation standard averaged
lower (2.5) than those passed intermediate (2.6), though the difference is significant (0.1). At Cuttack no difference is found among graduates and post-graduates in average live births (2.1). The fertility rate gradually decreases with the increase of wives educational status starting from uneducateds then to primary education, to middle school education, to high school education, then through matriculation to college education. The fertility rate is remarkably reduced among the college educated wives. Therefore people should be encouraged to educate the women upto the graduation level.

Among the youngest age group (below 25 years) highest fertility rate is found among the illiterates. No difference is found among the other intermediate educational groups but it decreases among the matriculates and college educated and is lowest among post-graduates. In the age group 25 to 34 years the fertility rate gradually decreases with the increase of education but no difference is found among the uneducateds and women with primary education. In the age group 35 to 44 years at Bhubaneswar illiterates have the highest fertility rate then there is no difference in average live births upto high school education, but then decreases among the matriculates and college educated. At Cuttack highest number of
live births is found among the illiterates. The wives with middle school education have higher fertility rate (4.9) than the wives with primary school education then the fertility rate gradually decreases but there is no such distinction in fertility at various level of college education. In the oldest age group (45 years and above) at Bhubaneswar the primary school educated have highest fertility rate (6.7); then it gradually decreases with the increase of education to matriculation and college education. The "high school" educated averaged higher fertility rate (6.0) than the middle school educated (5.5). The fertility is remarkably reduced in the matriculates (4.0). In the same age group at Cuttack the fertility rate gradually decreases with the increase of education starting from illiterates (6.6) to matriculates. The wives passing intermediate examination have higher live births (5.1) than the previous educational group but it remarkably reduced among the graduates (2.0) and post-graduates (2.7). Of course, the post-graduates who are very few in number have higher live births than the graduates.

In general we find that the fertility rate gradually decreases with the increase of educational standard.
of the wives. It is highest among the illiterates and lowest among the post-graduates or college educated. In all age groups it is found that the live births are highest among the illiterates and lowest among the graduates or in higher educated groups. The educational standard up to middle school has not got any influence on fertility, but it remarkably reduces after high school or matriculation standard.

The educated ladies show lower fertility rate because of different advantageous conditions due to their education.

The educated ladies have control over the circumstances. She has also the capacity to control her fertility and determines her so called status. Young educated wife in the city will probably be inclined to let her husband know of her feelings about numerous births and is less likely to remain silent while nature takes her own course. The educated couples usually show the life style in which there is less reason to have many children and more reasons to have fewer. Educated couples curtailed their fertility before family planning advice was widespread and before there was significant use of modern contraceptive methods. Now a days education of a
girl is an index that she will marry into a family with enough resources to afford some medical care for her children and that she can keep more of them alive through the perilous early years. She is likely to be a bit more secure about being cared for in her old age, to feel less dreadfully precarious about the survival of her sons. Both she and her husband will be better able to utilise varied resources in their times of need than an uneducated, poor couple, and so they will feel less dependent for safety on a larger number of children. Prolonged education contributes substantially towards the India's population problem by delayed marriage and by an appreciation of the need for higher standard of living. The educated girls of present generation are strongly motivated for smaller families and act more effectively than did the uneducated and even from the educated women of the older generation.

Through education one becomes better aware of the adverse effects of having too many children. So the maximum decline in fertility rate is associated with the rise in educational status from secondary school level to graduate level. Relationship of education with fertility initially is a positive one and changes direction only when couples attain
a fairly high educational level. It seems that the population growth in these areas or communities can be arrested by improving the literacy level at least from matriculation up to the extent of graduation in case of women and graduation and higher incase of men.

SHARING OF BED, TABOOS AND FERTILITY:

Sharing the same bed by the spouses is liable to influence, to certain extent, the sexual activities of the couples. Among the couples of Bhubaneswar and Cuttack 88.6% and 81.5% share the same bed and the rest sleep separately. But strangely the fertility pattern of the couples who sleep in the same bed (with mean fertility rate of 2.7 and 3.0 at Bhubaneswar and Cuttack) is lower than those who sleeping separately. It is 5.9 at Bhubaneswar and 5.5 at Cuttack. It shows that in reality sleeping in the same bed or separate bed by the couple has got no influence in their fertility performance. The age-group-wise analysis show that in all the age group the result is same. The average fertility rates are more in all the age-groups (except in youngest age-group). Those who do not share the same bed have higher fertility than those who sleep in the same bed. The spouses do not share
the same bed either due to lack of space, or where the young children sleep with the mother or the parents having grown up children sleep separately out of shame. But sleeping in the separate bed does not check the sexual activities. In some case the wives who have already completed their reproductive period sleep separately which has got no influence on their fertility performance.

In most of the traditional society like Indian society, there are different customs regarding cohabitation. There are some days in a year or month or week in which days mating is strictly prohibited. The couples observe some abstinence during religious occasions, fasting days, auspicious days of the week, inauspicious phases of lunar months, death anniversary of parents, mourning pollution for a deceased lineage member. The above mentioned days are considered as ritually taboed days. These taboos can be regarded as traditional methods for birth control.

From a study in an Uttar Pradesh village Kotayun, Gould has found (1969) that the frequency of intercourse is very much reduced partly from lessened opportunity and partly from more faithful observance of various taboo periods. Among
North Indian groups, men and women occupy separate social and physical space, a man enters the women's quarters only for a specific purpose and limited stay. Postpartum taboos on intercourse is observed in almost all the groups in India, though the stipulated length of the taboo period varies considerably, from just a few months to two years or more. One largest taboo period reported is from Senapur, a village near Benaras, where people believe that the couple should stop intercourse when the woman becomes pregnant and the period of abstention should continue for two years after child birth (Opler 1962: 218). The ritual tabooed days in Mysore village are 24 median days in a year. In a Delhi neighbourhood median was 19, for Bengal villages 70 and nearly 100 (Nag. 1965: 136; 1972: 236 - 237; Nathen 1962: 42). In Orissa also tabooed days in a year are more than 100. The rural people are very much strict about observing the different taboos. But in the urban area, the people are more modernized and are not obeying the different social customs. At Bhubaneswar and Cuttack the situation is different. 64% and 69.8% women from Bhubaneswar and Cuttack respectively observe all the taboo days as per the Hindu religion. Only 29.7% and 19.0% from both the places never observe any taboos. The rest of the women observe
some of the taboos and are not very particular about the taboos. It is found that higher percentage of women of younger age group do not observe any taboo. In the youngest age group the percentages are 51.5 and 40.4 for those who never observe any taboo and the percentage gradually decreases among the higher age groups. In the youngest age group at Cuttack of course more women (47.0%) observe taboos whereas 40.4% do not obey the taboos. The difference is due to perhaps Cuttack being more traditional city and as the joint families are more the youngers have to follow the elders.

The young women observe the taboos in a lesser extent than the women of older age-groups. But the fertility rate is more among the older age-groups which shows observance of taboos has no influence on fertility pattern of the couples.

LACTATION AND FERTILITY:

Natural fertility of women due to practice of lactation varies with the duration of lactation period. Temporary sterility is enhanced by the practice of lactation which is typically more prevalent in primitive and poorer societies. But now-a-days the modern educated mothers even in India are not willing to allow breast feeding for a longer
period to their children, hence prolonged lactation is not observed.

Lactation has some influence on fertility, when it is natural. The women who nurse their babies for longer period and their husbands honour the taboos on intercourse can space their pregnancies and by that can reduce their total fertility. The Khanaa study reports that, the belief is found among the women that during lactation the woman should not conceive. The birth interval reported was about 30 months (2 1/2 years) in that report. According to this research, a factor in the spacing is that the lactation delays the resumption of ovulation and menstruation by an average of ten months. Before the resumption, a woman has relatively little chance of becoming pregnant, even though the post partum period of abstinence in Khana area is only about 4 months. Only 7.1% of the conceptions recorded in the study occurred before the woman resumed ovulation and had any post partum menstruation. But once she begins menstruating again, breast feeding makes little difference in the incidence of her next pregnancy (Wyon and Gorden 1971: 158, 163 - 169). The study made among a sample of 886 women in the villages of Lucknow district U.P. showed that after women resumed menstruation and while she was
still breast feeding the child there was a low incidence of conception ( Saghal and Singh 1967, Dandekar 1969 ; 62, Jain 1967 b; 836, Rao and Mathen 1970 ; 54, Oberg 1971, Raphael 1972 ). This may be a result of lower incidence of coitus because of the belief that a nursing mother's milk becomes "spoiled" or at least less good for the child, after she has intercourse and some also avoid intercourse for the sake of the wife's health during nursing in the fear of next pregnancy.

The lactation period among the women of Bhubaneswar and Cuttack shows an average of 1.5 years ( 18 months ). This lactation period is less than the period ( 2 years ) found among the women of Khana area ( Wyon and Gordon 1971 ; 158; 168 - 169 ).

In the villagers of Lucknow district U.P. the average period of breast feeding was 22.6 months ( Saghal and Singh 1967, Dandekar 1969 ; 62, Jain 1976 ; 335, Rao and Mathen 1970 ; 54, Oberg 1971, Raphael 1972 ) which is also higher than the present sample. The lactation period is lower among the younger age group and it increases gradually in the older age groups. The fertility performance of the women of Bhubaneswar and Cuttack show no regular increase or decrease with increase of lactation period. Usually after the lactation period of 3 years the fertility rate decreases. But when age factor is taken
into consideration in the youngest age group the average lactation period is less and fertility rate is also low. Of course it is perhaps due to the use of different family planning procedures. The educated and working mothers do not prefer the breast feeding so lactation shows no influence on fertility. The women who are above 45 years show some influence of the breast feedings on their fertility pattern as in these cases fertility is more natural. Among those women the fertility rate decreases with the increase of lactation period at Bhubaneswar and Cuttack, when the lactation period is more than 2 years. The prolonged breast feeding has got some influence on fertility pattern only when the fertility is natural. But in the urban areas like Bhubaneswar and Cuttack where the fertility is more or less controlled and having children depends usually on couples desire (except in age group 45 years and above) lactation has no perceptible influence on fertility rate. The fertility rate shows an increase with the increase of lactation period but decreases when lactation period is more than three years.

**SPACING OF BIRTHS AND FERTILITY**

-The spacing of births or intervals between subsequent births has a direct impact on fertility performance.
The number of children also depends on the average spacing of children. The spacing might decrease with changes in traditional practices and reduction in the period of post-pastum amenorrhea, contraception to limit births would have to be much more effective, if other conditions operate in the direction of longer fecund life and shorter spacing.

Survey questions on birth spacing commonly yield replies that an interval of three to four years is desired (R. Gupta 1965 : 5 ; Kurthodi 1970 : 12; Program Evaluation 1970 : 45, 155). For birth spacing, the taboos are also practised. For example, as already mentioned taboos are observed by Senapur villagers of Benaras, Khandpur villagers in Western Uttar Pradesh. The Mysore study respondents also said that the taboo period should be at least one year but the finding in city area (739 informants) gave a lower median of 39 weeks and for rural women (353) a higher median of 61 weeks, the average interval between two births being about 3.6 years (44 months).

In the Khans area there was an average period of about 10 months between resumption of menstruation and next conception, the interval being larger for the older mothers.
and the interval between birth and next conception much shortened if the infant died in its first month or was still born.

Saxenas' study at Uttar Pradesh in the year 1962 shows average age at marriage 14.1 years and first maternity 17.6 years. The age at first maternity increases with an advance in the age at marriage but not proportionately.

The average interval between births reported 3.8 years in a sample of 2469 women of Nagpur district in Madhya Pradesh. For these women mean interval between their first and second birth was 4.1 years, between 2nd and 3rd 3.7 years and between 3rd and 4th 3.5 years, whereas the interval between marriage and 1st birth was 5.1 years (Driver 1963 : 76). Average interval of 3.01 years was reported from a sample of 113 Brahmins women of Nagpur city (Rakshit 1962 : 151); about 3.1 years from survey of 1946 village women of Alboor block in Tamil Nadu (K. Srinivasan 1967 : 53); 3.2 years from women of middle class Delhi ward (Thapar 1965 : 142). Other surveys report average intervals of about 2 and a half year (Hyderabad 1961 : 133, Agarwala 1970 : 97-98). The rural women who had been married before 1941 showed an average interval of 40.80 months in a large nationwide sample;
those married after 1941 averaged 33.47 months.
The comparable figures for the samples of urban women were 37.60 and 30.97 months (NSS Number 154, 1970:13-14).
A marked shortening of birth intervals seems to have occurred in recent decades both in rural and urban areas.
This may be due to breakdown of the traditional society after the world war II, and also due to the impact of modernisation.

The birth spacing interval observed at Bhubaneswar and Cuttack is nearer to Mysore study. At Bhubaneswar the interval between marriage and 1st birth is 1.9 years but the interval between successive births are 2.6 years and then 2.7 years for births of all kinds. At Cuttack interval between marriage and 1st birth is 2 years and then average interval between successive births are 2.8 years.

The interval between births shows that the first delivery is shorter than what is observed in
other places. In the younger generation the birth interval is decreasing and also the average fertility rate decreases. Therefore, we find that the interval between births has no influence in fertility rate. When the birth performance was more natural, breast feeding was more prevalent, the taboos were observed to increase the interval, but the fertility rate was higher. But now with the introduction of contraceptions, having children depends on the desire of the couples. They prefer to have 2 or maximum 3 children at an average interval of 2 - 3 years, and the birth spacing has got no influence on fertility rate. The modern parents usually plan to see through their children's education. Therefore they start having children after one or two years of marriage and have the desired number of children within comparatively short period, after which they do not have any children.
Child mortality is an important factor in determining the trend of population growth of a community or society. The child mortality rate also indirectly influences the fertility rate of the population. Notestein (1945) writes: "Any society having to face the heavy mortality characteristic of the pre-modern era must have high fertility, to survive. All such societies are, therefore, ingeniously arranged to obtain the required births. Their religious doctrines, moral codes, laws, education, community customs, marriage habits, and family organisation are all focusses towards maintaining high fertility". In all under-developed countries child mortality is rather high. In India, the high incidence of infant and child mortality is the most important discouraging factor in the general acceptance of family planning as the parents are uncertain about the survival of the existing children to their adulthood. As the inter relationship is found among fertility, mortality and family planning, the Government is arranging for maternal and child health services through "Family Planning Programme". Not only the child loss but in addition to it the pregnancy wastage (miscarriage, abortion
and stillbirth) affect parents' attitude towards a "controlled family size". So the study of "Infant" and "Child" mortality rate cannot be neglected, when any study on fertility is undertaken. In India the overall picture of child mortality is very sporadic.

The child mortality rate has been studied by different workers in different parts of India. According to Sample Registration Scheme, the infant mortality rates were 85 and 87 per thousand live births for the urban population in 1970 and 1971. The Bhubaneswar and Cuttack sample show that among 4636 and 5136 live births child loss were 10.6\% and 9.7\% which is higher than the national average, which is expected because of two factors, firstly Orissa is a backward state and secondly in the present sample death upto the age of 14 years are included while in "Infant" mortality death upto 5 years are only included. According to SRS (1969 - 70) of Uttar Pradesh, Rajsthan and Gujarat have the highest infant mortality rate and especially in the rural areas.

CHILD MORTALITY BY SEX:

The sex ratio has several important socio-economic bearings. Women generally have a lower death rate than the men.
because nature has equipped them better to meet the diseases. Organically it is the man, and not the woman, who is the weaker sex. The female child is definitely better equipped by nature for survival than the male. In India strangely the proportion of females to males becomes less as one proceeds from south to north and east to west. This is mostly due to the social value system of patriarchal Hindu society where the women are rather neglected and not treated as an asset to the society.

According to Sample Registration Scheme (1969-70) except Punjab, in the urban area in Assam, Uttar Pradesh, Mysore, Rajasthan, Jammu and Kashmir infant mortality is higher among males compared to females. Kerala had the lowest infant mortality rate (64.3/1000 for males and 48.5/1000 for females) which is also lower than the child loss at Bhubaneswar and Cuttack.

The study made by Dr. U. Deka and Dr. P. Patojoshi by collecting information from different hospital's maternity centres of Berhampur city in Orissa showed lower survival rate for the males 0.68 than the females 0.91 and according to occupation the survival rate is lower for the males in all the groups except the cultivators whose female survival ratio is higher. In agricultural community, the male child is an asset, as soon as he is able to tend the cattle, but females are lesser
partner in the agricultural activities. Therefore female child is neglected and falls prey to diseases.

At Bhubaneswar out of 4666 live births male births are 980 and rest 3676 are the female children, and at Cuttack the corresponding numbers are 5136, 1462 and 3674. The percentage of male child mortality is 20.09 at Bhubaneswar and 19.92 at Cuttack. The female child loss is 6.6% at both the places. It shows that in both the cities the male child mortality rate is very high in comparison to female child mortality rate.

In India, the children, particularly the boys are the main support of the parents during their older age. One half of Indian women aged 65 - 69 are without husbands (Paffenberger 1963: 764) and they mainly depend on their sons. "One young son is precious as an eye is precious, but a common saying is that - "one eye is no eye and one son is no son" (Opler 1964: 207, Paffenberger 1969: 36, 92). So where male mortality is high the fertility rate is also high to compensate the loss, so that atleast one son will survive till the old age of the parents.

In Hindu society, the place of the male child in the family is so elevated that it seems procreation of a son
is necessary for the interests of both the family and the community. For having a son is considered to be the primary aim of marriage. "There is little doubt that great emphasis is put on the hope of begetting a male child, especially for the first child or if there are only girls in the family. So if male mortality rate is more, fertility rate is also more to insure son survivorship " (David A. May and David M. Heer, "Son Survivorship motivation and Family size in India"; A computer simulation, population studies vol.22, 1968).

So the Indian "Fertility" is entirely consistent numerically with fertility of 10 or more births which is accompanied by family planning practice after the survival of a son has been assured.

FERTILITY AND CHILD MORTALITY:

The positive relation between birth rate and mortality rate is found by different workers at different places of the India.

Fredmann (1963) and Heer (1968) have shown positive correlation between infant mortality and fertility.

According to Driver (1963); where the fertility rate is more the mortality rate is also more. His study shows
that percentage of child loss rises regularly from 22.6% among couples having one child to 39.0% among couples having seven children. The percentages of child loss for couples having eight, nine and ten or more children are 33.8, 44.9 and 41.8 respectively. The average number of live births were 4.5 whereas the living children are 2.3.

The Gandhigram study conducted in selected villages of Tamil Nadu state has shown that higher birth rates correspond with higher mortality rates and both rates are lower among higher socio-economic status groups.

But Pakrasi (1963) has found negative correlation between infant mortality and fertility. The percentage of child loss though show no regular pattern of increase or decrease from 1 to 5 deliveries, it is more where the fertility rate increases (more than 6 deliveries). At Bhubaneshwar highest percentage of child loss (41.7%) is found among the couples who have more than 10 children. But at Cuttack highest percentage of child loss (40.0%) is found who had 10 live births. In total in both the places the mean child loss is 0.3 per birth and mean number of living children are 2.8 and 3.1 respectively at Bhubaneshwar and Cuttack. By comparing the present study and Drivers study it is clear that where fertility rate is more
the mortality rate is also more.

Among 1600 couples of Bhubaneswar 1198 couples having 1 to 10 children have not experienced a single child loss, and 42 couples having 1 to 4 live births, have no children. At Cuttack among 1500 couples, 1142 couples having 1 to 9 births, experienced no child loss whereas 13 couples having 1 to 3 births have no living offspring. At Bhubaneswar highest number of couples have 1 living child whereas at Cuttack highest number of couples (27.6%) have 3 children. The couples having some live births differ in the number of living children.

The child mortality rate shows wide variation among the different age groups (wife). The mortality rate gradually increase with the increase of present age of wife. At Bhubaneswar and Cuttack the fertility rate also increases with the increase of present age of wife and with that also the mortality rate varies as 11.1%, 3.1%, 13.7% and 15.9% starting from the youngest age group to the oldest age group and the corresponding percentages are 5.9, 3.7, 11.6 and 11.6 at Cuttack. The mean number of living children at Bhubaneswar and Cuttack in various age groups are 1.4 and 1.6, 3.0 and 3.0, 4.6 and 3.9 and 5.4 and 4.8 respectively starting from youngest to
oldest age group. Like Driver's finding in Nagpur district
the present study supports the positive association between
child loss and age of wife. Of course it is natural, because
the children of the older couples were born before several years
of survey and more exposed to the risk of death. Socio-economic
factors are most important factors in determining the
fertility rate and as well as the mortality rate. Because
social factors, such as poor hygiene, overcrowded housing,
inadequate and faulty nutrition and lack of medical facilities
for maternal and child health care have been the major causes
of child mortality throughout the world. In Orissa, though
in rural areas there are people who are denied of the medical
facilities which the urban people get. The urban people though
enjoy all the facilities yet the child loss rate varies among
the different socio-economic groups. In Western countries
though the child mortality rate has been very much reduced
considerably due to availability of better facilities in all
classes yet it remains highest in the lower social classes

FAMILY STRUCTURE AND CHILD MORTALITY:

The child mortality rate at Bhubaneswar and
Cuttack are not different according to the residences. In both
the places and in both the type of families (nuclear and joint) the mean child mortality rate is 0.3 though the fertility rate is more in nuclear families. But the percentage of child loss is more among the couples living in joint families (10.7 and 9.9 at Bhubaneswar and Cuttack respectively) than in the nuclear families (9.4 and 8.7).

No data is available from different urban places of India for comparison of present finding.

CASTE STRUCTURE AND CHILD MORTALITY:

The 'caste' which is the most important social stratification among the Hindus, also plays an important role in child mortality rate. Some studies have been made in India to study the relation between caste and child mortality rate.

Driver's study at Nagpur district supports the negative correlation between caste and child loss. It is lowest among the Brahmins (17.1%) and highest among the schedule castes (51.7%).

The Gandhigram survey (Pillai, K.M. and N.K. Namboothiri) shows that the Harijans had the highest birth rates, death rates and infant and child mortality rates, and
Gounders (High caste) had comparatively lower birth rates and death rates in all age groups. The infant mortality rate ranges from 141 to 209 per thousand live births.

At Bhubaneswar and Cuttack the mean child mortality rate is same for all the castes, so the mean number of living children varies according to the fertility rate. But the percentage of child loss is less in higher castes. The percentages increased as Brahmin 9.3%, Karans 9.6%, Khandayats 10.8% and other castes 12.8% at Bhubaneswar and at Cuttack, it increases as Karans 8.4%, Brahmins 8.5%, Khandayats 10.2% and among the other castes 11.0%. The percentage of child loss is more among the lower castes than among the higher castes. The finding at Bhubaneswar and Cuttack shows that though there is no caste wise differentiation in fertility rate but child mortality rate is high among the lower caste people. The present work supports the findings of Driver in Nagpur district and survey at Gandhigram.

**OCCUPATION AND CHILD MORTALITY:**

Occupational status of the husband is also responsible to some extent influencing the child mortality rate. The difference in child mortality rate according to the occupation
of the husband has been evident in many developed countries and also in India.

In U.S.A. also, when parity and social class are considered together, it is found that within each parity group, perinatal mortality rises with descending social class. The safest social class and parity group is represented by the wife of a professional man and the group which is most of risk is represented by the wife of the unskilled labourer (International Planned Parenthood Federation, "The Relationship between Family size and Maternal and Child Health", Working paper No. 5, London 1970. P.B.).

Driver's study also agrees with the present findings. The percentage of child loss is lower among the higher occupational groups and varies as 27.3% among professionals, 30.4% among agriculturalists, 41.3 among artisans, and about 34.0% among unskilled workers, traders and clerical workers. Because of the high child mortality rate of the artisans, who are one of the most fertile groups have fewer living children.

In the present study at Bhubaneswar, the percentage of child loss is lowest among the Class-II employees
(1.8%) then increases gradually through Class-I employees
(3.2%), Class-III employees (7.3%), large business people
(9.0%), Class-IV employees (15.4%), unskilled workers
(15.7%), artisan (18.0%) and it is highest among the small
business people. Mean number living children is lowest i.e.
among the small business people and highest among the Class-I
employees and unskilled workers. At Cuttack the highest
percentage of child loss (16.2) is found among unskilled
workers and Class-IV employees and it gradually decreases among
artisans, small business men, large business men, Class-I
employees, Class-III employees and then it is lowest among
Class-II employees. Number of living children is highest among
the higher occupational groups than among the lower occupational
groups as the number is reduced due to higher rate of child
mortality. The child mortality rate is lower among the higher
occupational groups. It is also more when fertility rate is
more.

EMPLOYMENT STATUS OF WOMEN AND CHILD MORTALITY:

The employment status of women is an important
factor contributing to child loss. The employed women in urban
setting are usually educated and they have better knowledge
of sanitation and also are more conscious of health of the
children. The present study shows that similar to the fertility rate, mortality rate is also lower among the employed mothers. This is 0.3 and 0.2 per child with average living children of 2.8 and 2.3 among the unemployed and employed mothers respectively. The percentage of child loss is 10.8\% among the unemployed mother and it is 7.3\% among the employed women. At Cuttack also, the similar pattern is evidenced. The percentages of child loss are 10.0\% and 4.4\% with average number of living children as 3.1 and 2.3 and average mortality rate 0.4 and 0.1 per child, among the unemployed and employed mothers respectively. In both the places the unemployed mothers have higher fertility rate, higher mortality rate and higher average number of living children.

Drivers' Nagpur study shows that unemployed mothers have lower percentage of child loss (36.4\%) than among the employed mothers (37.5\%), both urban and rural samples taken together.

**INCOME AND CHILD MORTALITY:**

The economic condition of the parents most of the time, contribute to the trend of child mortality. The parents having more income are in an advantagious position
and can take better care of their children by providing better food and medical care. So it is natural that among the poorer section of people child loss will be more due to malnutrition and unhygienic living condition. The survey at Nagpur district (Driver) reveals that the child is highest (43.5%) for those in the lowest income group and lowest (20.3%) for those in the highest income group. But the number of living children is more among the higher income groups though they have lower number of overborn children.

The survey at Bhubaneswar and Cuttack agrees the above findings, showing the highest percentage of child mortality rate among the lowest income group. At Bhubaneswar the highest percentage of child loss (20.2%) is found among the couples having monthly income within Rs.200/- per month and it gradually decreases with the increase of monthly income and lowest 31.3% among the couples having monthly income of Rs.1001 - 1501/-.

EDUCATION AND CHILD MORTALITY:

Education is one of the important variable in determining the fertility rate as well as the child mortality rate. Because the educated parents are usually conscious of
their family size and health of their children. The educational standard of husband is very important as he is the dominant member of the family in our society. Driver's study shows that the highest mortality rate (40.4%) is found among the couples whose husbands are illiterates and lowest among the high school educated group (23.1%) which is also lower than the matriculates (23.3%) and college educated husbands (27.5%).

In the present study the child loss is highest (21.9%) among the couples whose husbands are primary school educated. It is remarkably reduced where the husbands have passed matriculation (9.1%). Then it gradually decreases and who have passed intermediate examination (6.7%), graduates (5.9%) and post-graduates (4.4%). The husbands, who have done post-graduation have lowest fertility rate (2.5%) and also the lowest mortality rate (0.1%) and least average number of living children (2.4%). At Cuttack also mortality rate is highest among the illiterates (19.6%) and it gradually decreases as 18.4%, 16.1%, 12.1%, 8.9%, 9.5%, 6.0% among the different educational groups and lowest (5.3%) among the post-graduates.
The present study shows slight deviation from Drivers' study by showing negative correlation between husbands' education and child mortality rate.

Wife's educational achievement is more important than husband's educational standard for the survival rate of the child, as the mother has to look after the children. So mothers' education has important influence on child loss. Education of women has direct impact on family size so also they take maximum care of their small family which prevent higher degree of child loss.

The education of wife has got negative correlation with child mortality rate. The negative correlation between child mortality rate and wife's educational status has been found in Driver's study (1963) in Bagpur district. Percentage of child loss was 35% among the illiterate mothers, 34.0% among the primary school educated mothers and 23.7% among the mothers having more than primary school education. But he found that mean number of living children is more among the educated mothers.

At Bhubaneswar and Cuttack the mean mortality rate varies from 0.8 and 0.7 among illiterate mothers to
0.1 and 0.1 among graduate mothers. It gradually decreases with the increase of wife's education. At Bhubaneswar there is no difference between graduates and post-graduates mothers. At Cuttack post-graduate mothers have higher mean mortality rate (0.2) than the graduates (0.1). The percentage of child loss ranged from 19.2% among illiterate mother to 23.3% among intermediate. But the graduates (2.5) and post-graduates (3.2) have more child loss than the intermediates. At Bhubaneswar percentage of child loss decreases with the increase of mother's education. The highest percentage of child loss (14.5) is found among the illiterate mother and least percentage of loss (1.3) is found among the mother with post-graduate education. So the study among the women of Bhubaneswar and Cuttack shows that, according to increase of educational standard of wife, fertility rate and also the mortality rate decreases as found by Driver from the study of Nagpur district.

PREGNANCY WASTAGE:

The pregnancy wastage, to a some extent, can influence the fertility pattern of the couples. The total pregnancy loss or pregnancy loss due to a single cause like
abortion or still birth has been studied by different workers in different places.

According to Larimer the total pregnancy wastage may be well below 12.6% under favourable health condition in any population.

13% of pregnancy wastage was reported by Lewis - Foning in free United Kingdom.

The spontaneous abortions in Great Britain, Canada and United States, was 100 per 1000 pregnancies (United Nations 1954), but now it is higher i.e. 200 per 1000 pregnancies (Erhardt 1960, French and Bierman 1962). The increase in induced abortion rate is very natural as now the people have developed more tolerant attitude towards abortion. The data collected by Charles F. Westoff and Emily C. Moore in United States (The structure of Attitudes towards Abortions - Milbank Memorial Fund Quarterly, vol. 47, 1969) shows that the old women are not absolutely against abortion, though they are more conservative.

Kingsley Davis has pointed out that induced abortion is one of the surest ways of controlling reproduction, a method that was a principal factor in reducing
The Japanese birth rate to half and are that "seems particularly suited to the threshold stage of a population control program" (1967).

The pregnancy wastage due to still birth is very less and it is also gradually declining. The average ratio of reported still births to reported births in nine European countries declined from 2.9% in 1935 to 2.05% in 1949.

The pregnancy wastage has been studied by different workers in different parts of India. The pregnancy wastage reported by urban women sample of Haryana and Tamil Nadu was 6.5%.

In the study in rural villages in Punjab (Information comes from the India - Harvard - Ludhiana Population study; Khanna Study on 12000 pregnant women), the overall rate was 100 abortions, 30 still births per 1000 pregnancies.

The pregnancy loss has been found almost 45% among the cultivators of Berhampur city.

Abortions are the highest contributors to total pregnancy wastage. The normal abortion may be due to the
inexperienced mothers lack of knowledge of personal health care and the necessary precautionary measures to be taken during the first trimester of pregnancy. But induced abortion is now a more common method of controlling fertility rate. The induced abortion rate has been increased after NFP came into effect in this country, in 1972.

The significance of abortion as a method of birth control technique in India has been estimated by an official body. The report of the committee appointed by the Ministry of Health showed that out of 100 pregnancies 73 resulted in live births, 10 natural abortions, 2 presumably still births and 15 were induced abortions. The woman who has a successful experience of the first induced abortion is more likely to go in for further induced abortions, than the woman venturing for the first time (Gandhigram 1963a:27, Mohanty 1969:41-43).

In the present study at Bhubaneswar and Cuttack also some respondents have aborted twice or thrice (though very few).

Educated city women have better facilities for abortion. It has been reported from a Family Planning Clinic in New Delhi that induced abortion rate rises sharply with the increase of education.
The study of abortion cases in Bangalore City Hospital by Dr. H. Krishna Rao found that mean age for abortion was 29 years and maximum abortions occur within 20 - 34 years. The average number of children in the sample is 2.6 or 3. 54.7% aborted women had 3 or less children and abortion occurs more in educated women i.e. 72.2% of the aborted women educated and 82.5% husbands of these women are educated.

Out of all the abortions on Bangalore city, 24% were spontaneous and 16% were induced. 73 women aborted to limit the family size and only 4% due to economic position of the family.

Urban female respondents from Haryana and Tamil Nadu showed that over 46 out of every 1000 pregnancies were deliberately terminated and another 3 - 10 had ended in natural abortions. The pregnancy loss due to abortion was higher in the lower age groups as has been reported by Dr. Deha and Dr. Patjoshi, in a survey at Berhampur city.

An analysis of induced abortions in Karnataka (by A.S. Chandra Mouli, G.B. Venkatesha Murthy and K. Prabhakar) between 1977 and 1981 has shown that 85%
Hindus accepted MTP and majority of these women belonged to the age range 25 - 30 years. The study also shows that, the proportion of women undergoing MTP among Hindu is gradually decreasing, probably, due to acceptance of other family planning methods.

In Haryana total loss due to still birth was 8.8 per thousand pregnancies and at Tamil Nadu still births were 11.2 per thousand pregnancies.

The study at Bhubaneswar and Cuttack, like other places of India and abroad exhibits that, the pregnancy wastage due to miscarriages are much more frequent than the still births and also child loss after birth. Out of total pregnancies at Bhubaneswar 13.1% are abortions, 0.4% are still births and 9.2% are child deaths and the total pregnancy wastages are 22.6%. The corresponding percentages at Cuttack are 19.7%, 0.3%, 7.8% and 27.8% respectively. Still births are found more in the oldest age group. Induced abortions are found more within the age groups below 45 years, but the normal abortions occurred more in the age group above 45 years.

The frequency of induced abortion shows the consciousness among the couples regarding the necessity of
limiting their family size. There are also the women who, though are religious and think abortion as a sin; but had undergone induced abortion to limit the family size. The consolation for them is - "It is better to sin by doing abortion than not to give proper care to the children".

The still births and normal abortions are found more in the oldest age group as these women could not get the medical facilities as the younger generations are prevailing. The young wives also have more knowledge about the importance of prenatal care of the mother. The frequency of pregnancy wastages due to different causes at Bhubaneswar and Cuttack resembles the findings of different workers at different places in India (as mentioned before).

The indicators of socio-economic status such as education, income, occupation and caste have been found to be highly and significantly related to infant mortality rates in rural and urban India (S.N. Singh and others).

At Bhubaneswar and Cuttack the child mortality has been significantly influenced by socio-economic status of the couples. The child mortality rate is low among the higher status groups than the lower status groups. The male child loss is more than the females.
The Urban Fertility surveys conducted by I.Z. Hussain in Lucknow city and Edwin Driver in Madhya Pradesh and a recent study of family planning in two industries in Faridabad conducted by CSD have also confirmed the highly significant inverse relationship between higher socio-economic status and higher fertility and infant mortality among the respondent groups. So also at Bhubaneswar and Cuttack the child mortality rate is more among the higher fertile groups.

The downward trend of child mortality rate is certainly a most welcome sign but compared with the conditions in other countries the situation is still far from satisfactory in India.

The analysis revealed that infant mortality reduces the interval of the next birth, considerably more or so when male infant dies. Infant death results in higher fertility irrespective of parity, age of mother, proportion of children surviving, type of family, and caste of the couple. Statistical tests indicated no significant association with the variables.
Birth control has an important role to play in the social health and economic planning of developing countries like India; where population growth in the past was not keeping balance with resources and their utilization. The birth control not only helps to reduce the number of births, but also reduces the death rate by reducing the number of unwanted children and also by reducing the health hazards of the child-bearing mother. Family Planning methods not only reduces the birth but also helps in spacing of the children in such a way that proper care can be given to each child and child mortality thus reduces. As the population growth has become the important problem for India the Government is giving prime importance on "Family Planning Programme" to reduce the existing fertility rate. India is one of the few countries to introduce "Family Planning Programme" as a national policy in the fifties. The "Family Planning Programme" was introduced in India in the First Five Year Plan. Before the introduction of "Family Planning Programme" there were also some traditional methods of birth control which were followed by the couples in rural India. But those traditional methods always were not successful. After the use of different family
planning techniques remarkable change has been experienced in fertility rate. Most of the couples are now aware of some of the techniques though not all the techniques.

**AWARENESS AND INTEREST OF FAMILY PLANNING:**

The small family size norm is now common among the urban couples. So the awareness of family planning methods and interest in it is gradually increasing.

According to Agarwala in 1971, 80% of urban people and 60 to 70% of rural people were aware of family planning methods.

In the study at Nalnad region of Mysore state in 1963, where enquiry was confined only to the males (whose wives belong to the age group 20-30 years), it was found that 32.4% respondents were aware and 36.6% had the knowledge of family planning methods.

Attitude studies relating to family planning in India (R. P. Goyal), brings out that roughly 70% of the females of reproductive ages are willing to learn about contraceptives.
Drives study in Nagpur district in 1963 finds that only 33.7% couples knew some techniques to limit the births.

According to Saxena in general 20 to 60% of the rural people and 45 to 75% of the urban people have favourable attitudes towards adoption of family planning methods. 40 to 60% of rural people and 50 to 70% of urban people have only some knowledge of family planning.

Family planning survey in four Delhi villages by S.N. Agarwala (1961-62) shows that about 19% of females had the knowledge of contraceptives.

The survey at Bhubaneswar and Cuttack shows that 72.3% and 69.7% women possess clear knowledge regarding birth control techniques. 43.4% and 52.3% of those who have no knowledge, are interested to have some information on this. The younger people are more interested to know the good and bad aspects of the different types of techniques used for family planning. The percentage of women having the knowledge of family limitation methods is highest in the youngest age group (31.7% at Bhubaneswar and 79.4% at Cuttack) and it decreases with the increase of age of the women and lowest among
the oldest age group (38.2% and 54.3% at Bhubaneswar and Cuttack respectively). Among the women without the knowledge of family planning technique, in the age group below 25 years, 51.6% at Bhubaneswar and 66.1% at Cuttack are interested to know all the techniques. Only 29.6% at Bhubaneswar and 31.3% at Cuttack of such women of the oldest age group are interested to know the techniques. In the oldest age group, though they do not have clear knowledge of the techniques some of them are already sterilized due to some unavoidable circumstances of health. Some of them are not at all interested as they have already attended menopause.

The percentage of knowledgeable couples in the urban area of Bhubaneswar and Cuttack is less than the finding of Agarwala in 1971 but similar to Saxena's finding. The percentage is almost same as Agarwala's finding among the younger generation. In total except very few (6.7% at Bhubaneswar and 12.7% at Cuttack oppose the family planning) most of the women show favourable attitude (79.7% at Bhubaneswar and 96.5% at Cuttack) towards family planning which is higher than the finding of R.P. Goyal and Saxena.

The most important elements in determining action for fertility reduction are the knowledge and attitudes of the
people, and their decision to act in the regulation of family size. The data from the urban sample seem to indicate a high degree of awareness and approval of the general concept of family planning.

**USE OF FAMILY PLANNING METHODS:**

In the recent decades, the most dynamic factors in population change are fertility and mortality. In most of the western countries, the fertility change is due to the increasing use of effective family planning methods.

According to Freedman there is rapid decrease in population growth (fertility) by the increase in contraception after 1975 in Great Britain. In United States that has been effected since 1850.

Now in India also most couples have a fairly specific idea of the number of children they want and are using contraception in order to stop further pregnancy when they achieve their goal. Sometimes the couples though prefer small family but hesitate to use the family planning methods. Different groups of people favour different family planning techniques.
Driver's study in Nagpur district reveals that 70.3% of total couples were interested in family limitation, but willingness to use the techniques depends on health, religious, moral and practical considerations. Out of 2314 couples, 714 couples have no interest in family limitation. Those who were interested in family limitation, out of them 23.3% used abstinence technique, 16.7% had abortion, 6.2% were sterilized, 27.3% used contraceptives. The general view of the people was, they liked to limit the family size after having the desired number of children but hesitated to use the different techniques because of either their unreliability or harmful consequences. The general idea is "family planning is very essential, but means are harmful in the long run". So usually the educated mass now prefer abstinence technique though usually they are not sure of the result.

Among the different family planning methods, sterilization is the surest and permanent birth control technique. According to O.P.Vig "as the rate of sterilization increases, decline in birth rate also increases". Gupta has estimated reduction of 17.4% in birth rate due to sterilization operation. From 1956 to 1967 the sterilization rate was 3 per 1,000 population, having 3 or more living births. The other studies in India has shown that persons undergoing sterilization operation are having on the average 4 - 5 living children and during
husband's operation wife's age is 30.6 years.

A survey of the world abortion situation revealed that abortion has been the most widely practised method of fertility control in virtually every country, no matter what its culture, politics or religion (Chandrasekhar). The number of abortions taking place in India has tremendously increased over the years. The abortion rate for the total population was 0.10 in 1972-75. It is 0.44 in 1976-77. It is also evident that the abortion ratio, when considered against total live births, has increased from 3 in 1972-75 to 11 in 1976-77. The rate of increase is nearly three folds. The increasing trend might be the outcome of a change in the attitude towards abortion consequent of legislation and changing social conditions (Social change, Vol. II Number 334 Sept - Dec., 1981 - Abortion in India, by A.S. Chandra Mouli, G.B. Venkatesha Murthy, K. Prabhakar).

In the analysis of induced abortions in Karnataka between 1977 and 1981 shows that 86% of the acceptors are Hindus. But the percentage has been decreased from 86.2% in 1977-78 to 83.4 in 1980-81 (Induced abortion in Karnataka: An Analysis, by K. Prabhakar and G.B. Venkatesha Murthy - Social change Vol. II, Number 334 Sept - Dec., 1981).
The abortion cases in Bangalore city hospital shows that maximum abortion occurs within 20 - 34 years and with average number of children is 2.6 or 3.

Regarding the interest in family limitation the Poona study (by Kumudini Dandekar 1960) reported that among 1225 interviewed women 18% were unfavourable to family planning and only 41 were sterilized and 18 adopted other means.

In the Madras study as reported by Gopakr Swamy (1960) among 33829 women interviewed 92% were interested in controlling their fertility but only 4% accepted the family planning techniques.

At Bhubaneswar and Cuttack highest percentage (61.8% and 56.6%) of youngest couples, and lowest percentage (45.5% and 57.1%) of oldest age group have used the birth control techniques. In total among the interviewees 58.5% couples of Bhubaneswar and 82.9% couples of Cuttack have used the family planning techniques. Though higher percentage of couples have used the birth control techniques at Cuttack more couples (12.7%) oppose the family Planning methods in comparison to Bhubaneswar (6.7%). More couples of oldest age group oppose the birth control methods. The couples who have used the birth
control techniques either never stick to one techniques or sometimes they fail, because of either irregularity in their use or they do not know the proper method of use. At times the contraceptive itself fails or has bad effect on the users. There are also the couples who have tested more than one technique and lastly have done sterilization (either husband or wife). Sterilization is done more among the people of lower status. Among the users of family planning methods at Bhubaneswar, higher percentage of couples have used contraceptive (56.2%) then comes abortion (43.1%), sterilization (24.1%) and abstinence (11.4%). At Cuttack the users of the different techniques varies as abortion 95.1%, contraceptives 64.3%, sterilised 33.3% and abstinence 22.6%. The couples with or without the knowledge of different family planning techniques, even though at times some of them opposed the family planning techniques showed some interest in family limitation. Almost all the young couples and also a certain percentage of eldest age group are in favour of limitation of family size. Percentage of couples interested in family limitation decreases with the increase of present age of wife.

The abortion rate found at Bhubaneswar and Cuttack are comparable with the other urban areas. Sterilization is less
used technique than abortion and contraceptives. But the women who have no knowledge of family planning methods have done abortion and sterilization. But knowledge of sterilization is now widespread. The study by A.S. Chandra Mouli, G.D. Venkatesha Murthy and K. Prabhakar (Abortion Demand in India) shows that women in the reproductive age group 15 - 44 undergoing abortion has declined by 5.3 percent from 1972 - 75 to 1976 - 77 while the rate of sterilization acceptors amongst them has gone up from 0.2 to 0.9. The reason is that in present National Family Planning Programme, sterilization is given priority over all other methods. In older age groups the couples have begun to practice some form of family limitation method and preferably the sterilization. But in fact it is too late to enable the couples to limit their families to the desired size. Induced abortion is the surest way of controlling reproduction (Kingsley Davis). But more than two induced abortion is not advisable for a woman, whereas sterilization is the permanent birth controlling method. So at Bhubaneswar and Cuttack the abortion rate is considerably high or it has become now favoured method of controlling fertility to avoid the unwanted pregnancy. More emphasis is also now given on sterilization. Because it is better to prevent the pregnancy
rather than getting it aborted. The family planning acceptance is now widespread among the urban couples.

ATTITUDE TOWARDS LIMITATION OF FAMILY SIZE:

The main aim of the "Family Planning Programme" is to change the attitude of the people in favour of smaller family size. The children are no doubt the cause of the happiness of the family. Usually no couple wants to remain childless, as in Hindu society childless couples have low social status. But the pleasure derived by parents diminish with the increasing number of children. The parents can achieve happiness and improve the standard of living, when they restrict the family size (to whom parents can rear adequately on their available resources).

The attitude studies towards the family size in different places in India give a very favourable picture. They bring out that in rural India, females desire to have an average of 4 children and in urban areas three children. They also want them in three years apart (R.P. Goyal).

Dandekar's study shows that after 3 or 4 children the couples like to sterilize. Dr. Ananda study in Bhushan Kharana
in Boroda in the year 1969 - 71 shows that 50.4% people were willing to accept family planning techniques after three children (2 sons and one girl) and 33% after four children (2 sons and 2 girls). The demographic study at Kerala by Gopal Krishnan also shows that the most of couples desire 3 children. Driver's study shows that the couples who were interested in family limitation wanted either 3 or 4 children. The ideal number of children is not influenced by the number of living children, and the younger people are in favour of smaller family size than the older couples.

The survey by R.K.Som and S.Sengupta by interviewing 1327 households (Social change, Vol.II, Number 3 and 4, Sept. - Dec., 1982) 754 in 1971 villages, 406 in 26 townblocks and 168 in Calcutta city blocks, found that among the rural Hindu respondents 74 considered 3 children enough, 78 considered 6 children too many, 60% favoured limiting family size.

S.R.Mukherjee's study (920 married women) found that 37% women desired 2 children, 30% wanted 3 children. Under existing conditions the preference was 2.56 and under ideal circumstances 4.
The Mysore population study points out that in Bangalore city the women consider 3.6 to 3.8 children as the ideal family size. Whereas their rural counterparts give an average of 4.7 children.

Anand K. while studying the opinion and attitude of 100 women aged 50 or over selected by random sampling at Chandigarh reported that 53% believed 3 to be the ideal number of children and 50% wanted a combination of 2 sons and 1 daughter. He also found positive correlation between the number of children surviving and the ideal number of children.

B.D.Kale's inquiry in Dharwar Taluka, observed that 30% urban males and 17% urban females mentioned 4 children as the ideal number.

The Demographic Training and Research Centre (1967) while studying a number of 6077 women in Bombay observed that the average ideal number of children mentioned was 3.9, which was rather high for a metropolitan city. There was a positive correlation between the ideal number and actual number of children living.

Narayan Das's (1972) in Baroda Taluka observed that 53% of urban males and 60% urban females favoured
R.M. Taneja (1972) found that two thirds of the respondents considered 3 children as ideal number (2 sons and 1 daughter) in a selected population of armed forces at Poona.

50.2% of the women of Bhubaneswar, would like to have 3 children and preferably 2 sons and 1 girl. 33.9% are in favour of only two children (one son and one daughter). But at Cuttack highest percentage of women (41.2) consider 2 as the ideal number of children and 37.7% couples like to have 3 children, preferably 2 boys and they say that "one eye is no eye and one son is no son." Very few percentage of couples (2.1% at Bhubaneswar and 2.8% at Cuttack) prefer to have only one child. 12.6% couples at Bhubaneswar and 15.7% couples at Cuttack like to have 4 children. Negligible percentage of couples like to have more than four children, as they have already that number of children, which shows positive relation between number of surviving children and ideal number of children as found by K. Anand at Chandigarh and by Demographic Training and Research Survey at Bombay.

The urban couples of Cuttack and Bhubaneswar like to limit their family size with 2 or 3 children and in very rare
case (usually the older people) with 4, to lead a better way of life. Most of studies at other urban places of India, show that the ideal number of children are either 3 or 4, whereas the present study at Bhubaneswar and Cuttack show that now a days couples like to reduce their family size with 2 or 3 children.

The study at Bhubaneswar and Cuttack also shows that in some cases the wives are very much interested in limiting the family size by using any of the method, whereas their husbands show negative attitude towards contraception. It has also been found in Mysore Population Study that both in city and rural area, husbands have greater desire for children than women. As Oriya Hindus have usually, husband dominant family system, husband’s attitude is honoured always.

FAMILY TYPE AND FAMILY PLANNING:

The family type is one of the sociological factors which influences the attitude of the couples towards family planning.

The influence of residence on family planning shows family type is not associated with the knowledge of birth
control technique. At Bhubaneswar 72.7% of women living in nuclear family have the knowledge of fertility control technique whereas at Cuttack 72.7% women have the knowledge of birth control technique, living in joint families. But in both the places more couples living in nuclear families show favourable attitude or are interested in limiting the family size. Of course the difference between nuclear family and joint family is very insignificant.

Not much informations are available to see the influence of family type on the knowledge and interest of the couples in family planning to limit the family size.

CASTE STRUCTURE AND FAMILY PLANNING:

The caste wise analysis shows some differences among the members in knowledge and interest in family planning.

Dopganje (1965) reported that high caste Hindu families prefer large family, whereas Morrison (1956) did not find caste difference in family size preference. No caste differences were found in practice and attitude (Agarwala 1960 and 1963) or acceptance of sterilization (Rao 1969).
Fertility study by J.N. Sinha in urban community of Uttar Pradesh shows that there is not a single case of use of contraceptive among lower caste Hindus, but among high caste Hindus 1 in every 5 persons use contraception. In lower middle class 12% reported use of contraceptive, middle class 27% and in upper middle class 40% reported use of contraceptives.

Driver's work in Nagpur district also supports the variation in use of contraceptive according to caste membership. According to his data 65.6% of Brahmin, 11.4% of the Kosthis and 4.0% of the Gonds have knowledge of any birth control technique. But half of the Kosthis and Gonds (50%) are interested in family limitation. 55.5% of schedule castes and 90% of Brahmins and 91.7% of Marathas are interested in family limitation.

Caste wise differentiation is also evident at Bhubaneswar. Higher percentage of Brahmins (78.4%) have the knowledge of birth control techniques. 73.6% of Karans, 70.1% of Khandayats and 69.3% of other castes are aware of the techniques. At Cuttack Karans (78.1%) occupy the highest position and then the Brahmins (77.3%), Khandayats (64.1%), and other castes (62.7%) are aware of different fertility
control techniques. The higher caste women like Brahmins (79.9% and 91.0% at Bhubaneswar and Cuttack respectively) and Karans (85.1% at Bhubaneswar and 87.7% at Cuttack) are more interested in family limitation. It shows that higher caste Hindus are more interested in limiting the family size and higher percentage of them have knowledge about different fertility control techniques. This finding shows similarity with Driver's study and J.N. Sinhas' finding (which shows that contraceptive is more accepted by higher caste Hindus).

EMployment Status of Women and Family Planning:

The employment status of the women provides them decision making power in different roles so also decision making ability towards fertility and small family norm. When both the couples are educated and employed they prefer small family than the couples in which only the man is educated and broad winner too (Chandrakala Dave and K. Sadashivah - Family size and Quality of Life, Social change Sept. - Dec., 1981).

At Bhubaneswar and Cuttack almost all (91.4 and 95.8% respectively) employed women are interested in family
limitation. All of them also have the knowledge of fertility control techniques.

OCCUPATION OF HUSBAND AND FAMILY PLANNING:

The employment status of the husband also has a great bearing on the family size.

The people of Nagpur district (studies by Driver 1963) differ in their knowledge of birth control techniques and interest in family limitation according to the occupation of the husband. The percentage of knowledgeable couples ranges from 20.2% for the un-skilled to 65.1% for the professionals. The professional groups also have greatest interest in family limitation.

Narayan Das's study (1972) at Boroda shows that in case of urban males rural females occupation seemed to affect attitudes towards small families to a large extent.

In the present study, among the couples of higher occupational groups the knowledge of family planning method is more. It varies in different occupational groups at Bhubaneswar and Cuttack in the following manner:- Class-I employees
(100.0% and 82.9%), Class-II employees (94.8% and 96.3%), Class-III employees (82.4% and 83.3%) and large business (72.6% and 83.3%). It is lowest among the un-skilled workers (25.6% at Bhubaneswar and 10.1% at Cuttack). The interest in family limitation is also more among the higher occupation groups. At Bhubaneswar highest proportion of Class-I employees (100%) are interested in limiting the family size whereas at Cuttack highest percentage of Class-II employees (96.3%) are interested in family limitation. Because at Cuttack most of the Class-I employees are old persons and their wives have already completed their reproductive span. So their knowledge about fertility control technique and interest in family limitation is less than the Class-II and even than the Class-III employees. Among the lower occupational groups though knowledge is restricted but more than 60% at Bhubaneswar and 65% at Cuttack are interested in limiting the family size.

INCOME AND FAMILY PLANNING:

The economic status of the couples not only influenced the fertility rate in the past, but also attitude towards the limitation of family size.
Dr. Anand's study in Boroda shows that acceptance of family planning methods is highest among lower middle class (21.8%) and lower class (8%) and low in upper middle class (2.8%), upper class (0.2%). This shows that interest in limiting the family size is not only restricted among the higher-class people.

The family planning practice of couples of reproductive age groups studied in a selected locality in Calcutta in June 1965 by Dr. Sat. Mulita Sen and Dr. D.K. Sen also shows that only 27.3% couples having monthly income Rs.160/- practice family planning method whereas 68.7% couples practice the method having the monthly income between Rs.750/- to Rs.1,000/-.

Driver's study revealed that percentage of knowledgeable couples ranges from 17.2 for those earning less than 500 rupees annually to 65.9% for those earning 1500 - 1999 rupees. Interest in family limitation was expressed by 57.6% of those earning less than 500 rupees per year and 66.4% of those earning 1500 - 1999 rupees annually. He also found the difference of opinion between landless and land owner farmers.

The study at Bangalore district village by S. Bialiah and S. Govinda Gorda (Social change: Sept-Dec, 1981)
shows that, according to annual or per-capita income there is no difference between the adopters and non-adopters of family planning techniques. But results of some indices of level of living suggest that on the whole adopters are placed in a better position than non-adopters. The Mysore population study in Bangalore city shows that high economic status is correlated with desire to have small family.

The present study shows that, the knowledge about family planning techniques and interest in small family size is more among the higher income groups than among the lower income groups. The percentage gradually decreases with the decrease of monthly income. The couples whose monthly income is more than Rs.2,000/- all are interested in family limitation and have knowledge about birth control techniques, whereas among the couples with income below Rs.200/- per month only 27.6% at Bhubaneswar and 28.2% at Cuttack have knowledge about birth control techniques but more than 50% are interested in limiting the family size. Among the lower income groups knowledge of birth control technique is less but higher percentage of couples are interested in fertility control.

It is difficult to come to any generalize conclusion regarding the social class differential in family size preference
in India due to regional variation and other factors. Some of the fertility investigators have indicated that with the rise of socio-economic status the number of children desired also increased. The response in Calcutta shows that under existing conditions they would prefer 3 children while under 'ideal' condition they would prefer 4 (Mukherjee, S.B.).

The studies made at different places and also the present study demonstrate that percentage of knowledgeable couples vary according to the economic status but attitude towards smaller family size is prevalent among all the economic groups.

EDUCATION AND FAMILY PLANNING:

A demographic survey of eight towns in Kerala, educationally the most advanced state in India shows that neither economic difference nor caste difference etc. have any effect on the fertility rate but it is only the education which helps to reduce the fertility rate. Education helps in acquiring knowledge regarding the importance of family planning and it also delays marriage. The cause of reduction of fertility rate in West Bengal is by increase of age at marriage
and by prevention of conception by interrupting pregnancy, using different family planning methods.

Driver's study in 1963 in Nagpur district shows positive correlation of education with knowledge and interest in family planning. The percentage of knowledgeable couples ranged from 16.4 for uneducated to 85.5 for the college trained. The degree to which couples are interested in family limitation also corresponds with educational attainment. The interest in family limitation expressed by 56.1% uneducated husbands and 95.7% college trained.

The study in some selected localities by Dr. Sat. Mulita Sen and Dr. D.K. Sen (1965) showed that the percentage of family planning acceptors varies according to educational standard (illiterates 18.7%, Primary 45.5%, Secondary 62.3% and college educated 77.7%).

Study in Calcutta by S.B. Mukherjee shows that practice of contraception is almost absent among illiterate women. Less educated women use them to a small extent and the better educated women use them more.

The proportion of use of modern contraceptive devices rises steadily with increasing education (Sen and
In Bangalore city, a high educational level was found to be correlated with desire to have small family (Mysore Population study).

The study of Narayan Das (1972) in Bhowra revealed that though the literate groups preferred small family size, more illiterate females than the males favoured small family.

The contrasting results have also been obtained from other studies. For example, in Kanpur, an industrial city in Uttar Pradesh while there was no difference in the number of children desired among illiterate, and primary educated women, the number desired was less in the case of secondary and college educated women (by Majumdar).

The present study shows that the educational achievement of the couples is an important factor in determining the family size. The influence of wife's education is more important
in knowledge of techniques and interest in family limitation. The lowest percentage of illiterate women (27.8% at Bhubaneswar and 13.4% at Cuttack) have knowledge of family planning technique and the percentage gradually increases with the increase of education. The women who are matriculate, almost all of them (98.0% at Bhubaneswar and 99.6% at Cuttack) are aware of the different birth control techniques and all the college educated women have the knowledge of birth control techniques. The percentage of wives having interest in limiting the family size also increases with the increase of educational standard from 53.4% and 61.5% at Bhubaneswar and Cuttack respectively to 100% among the post-graduates.

The wives' education is though important for her outlook but husband's education is not less important in deciding the family size. Because husbands knowledge and interest influence the wife. Some women have also stated that, though they are in favour of permanent stopping of child birth their husbands are unwilling to be sterilized or do not allow them to be sterilized and even in some cases the husbands are unwilling to use any temporary fertility control methods.

It is also known that in Calcutta (Matheo, K.K.) some women are unable to take practical steps because of
husbands opposition to contraception. Mukherjee (1973) found from his fertility survey at Tamilnadu about 6% females and at Haryana about 4% females could not practice family planning because of the objections raised by their husbands. So husband's attitude towards family size is very important it can be changed with his education.

The study at Bhubaneswar and Cuttack shows that according to husbands educational standard starting from illiteracy to post-graduate the percentage of couples having knowledge in birth control techniques and interest in family limitation increases. The husband's educational standard from illiteracy to middle school education makes no such difference but after that percentage increases with the increase of his education.

Education provides the opportunity to acquire new knowledge and receptivity to new practices. Having a small family or planned parenthood depend upon the knowledge of the spouses and attitude towards the family size. So both the parents should be motivated to have a small family and acquire the knowledge about different birth control techniques. As both the husband and wife have to play equal role in decision making,
both of them should be educated. The studies at different places and the present study show that education is positively correlated with knowledge of birth control techniques and attitude towards limiting the family size.

The most important element in determining action for fertility reduction are the knowledge and attitudes of the people and their decision of the family size. The studies conducted in different parts of India indicate that people have gained knowledge about family planning to certain extent and most of the couples now desire to have a small family. But the attitude towards the acceptance of the different birth control measures, decision regarding timing, spacing and also the number of births are influenced by cultural, social, economic and psychological factors.

Traditionally, the children are regarded as gift of 'God' and uncontrolled procreation is one of the laws of normal life. The family planning movement in India is linked with the activities for promoting health, economic stability and general wellbeing of the family. The family planning movement in India aims at the promotion of happiness of married couples and proper development of their children. Now a days
due to some revolution in the mental, psychological and cultural attitudes of the parents more children are considered as curse of God. When number of children are more and parents can not give proper attention to their children then they feel it as a sin. So most of the parents are conscious of the number of children they have.

The evidences obtained from the present study indicate that the impact of family planning movement in Bhubaneswar and Cuttack are not sufficient. So far as the knowledge of birth control is concerned it is not substantial. The younger people are very much conscious, the older people, though are interested in family limitation and have used some techniques are too late to adopt the means to control the family size. The knowledge of fertility control and attitude towards limiting family size of the couples are influenced by some of the socio-economic status (occupation, income and education) and some of the variables have no influence (Family type, caste etc.). But a revolution in the mental, psychological and cultural attitudes can lead to a conscious control of fertility, which is now to a greater extent have occurred among the urban couples. So also now at Bhubaneswar and Cuttack most of the couples are interested in limiting the family size (in 1981 census, Cuttack fertility rate has been reduced).