Chapter VII

SUMMARY AND CONCLUSION

Introduction

Religious affiliation of the people has engaged the attention of all the demographic researchers of all time. Fertility differentials by religion have been observed in developed as well as developing countries. In the demographic literature several reasons have been put forward to explain the differentials in fertility by religion.

Substantial differentials in fertility among the major religious groups in different parts of the world have been empirically established by several studies. In countries like Lebanon, Egypt, Israel, Jordan, Africa, Malaysia, Albania, Yugoslavia and India the differentials are studied between Muslims and non-Muslims. In North America and Europe the differentials studied are between Catholics and Non-Catholics, Christian and Jews, and Christians and Muslims. These empirical studies found that Catholics have higher fertility as compared to Protestants and Jews and the fertility level of Muslims has been higher compared to Christians.

In India, fertility estimates from various sources have found that Muslims have the highest fertility among the major religious groups. In the country as a whole, the Muslim fertility has always been higher than Hindu fertility and Christian fertility has always remained lower than the Hindu fertility. However, because of the cultural, economic and geographical diversity, the magnitude of regional variation in fertility is very high in India. Populations of various religions are not evenly distributed across States and there are large spatial variations in fertility at the national level.
The religious differentials observed at the national level may be due more to regional variations than to the religion factor.

The higher growth rate of Muslim population has become a source of intense controversy in India, after the publication of 2001 census report. In India, among the major religious groups, Muslims were growing at a higher rate than the average and after 1970s. Over the last four decades, during 1961-2001, the Muslim population in India increased by 194 percent compared to the all India average growth rate of 134 percent. The Christian growth rate was substantially lower than that of the Hindus. As there are regional variations in fertility among the major religious groups, it is difficult to discuss the history of India’s demographic transition without explaining the religious fertility differentials.

Across the world, there are spatial variations in fertility. European fertility is much lower than Asian or African and even within Asia there are regional variations in fertility. India also has geographical variations in fertility. Available data show that Southern States like Andhra Pradesh, Karnataka, Kerala and Tamil Nadu have achieved substantial decline in fertility and some States are already attained the replacement level and others are near to that stage. However, it should be noted that fertility has declined in all States but in varying degrees. Even within a particular State there are spatial variations in fertility. So it would be interesting and rewarding to go deeper into the fertility differentials within a State like Kerala, which has already attained the replacement level fertility. This study shows a difference in fertility in Kerala from the all India pattern with regard to the determinants of religious fertility differentials.

Most of the studies on religious fertility differentials in India have concentrated on Hindu-Muslim fertility differences. Kerala’s achievement in this area has also been studied and the tremendous demographic
transition achieved has been well recognised world over. The fertility differentials among the three major religious groups, Hindu, Muslim and Christian have been contrasted with what had happened in the advanced countries like North America during their demographic transition. The State’s overall achievement of replacement level fertility (1.7) and the differences in fertility among the religious groups call for an in depth examination of the reasons for religious fertility differentials in Kerala. In fact Kerala is the only State in which the proportion of the three religious groups is sufficiently high enough to make such an investigation. The above facts prompted me to choose “Determinants of Fertility Differentials among the Religious Groups in Kerala” as the topic of the study.

The principal objective of the study was to understand the dominant factors that determine fertility differentials among the religious groups in Kerala. To get an idea of the pattern of demographic change the levels, trends and differentials of fertility among the religious groups in Kerala have been examined. Further the study has examined the socio-economic and demographic factors responsible for the fertility differentials among the religious groups in Kerala. And finally, the effect of spatial settings on fertility among the religions has also been analysed.

The data from various sources like Sample Registration System, various Census Reports and the National Family Health Surveys were used to get a clear idea regarding the causes of religious fertility differentials in Kerala. The two National Family Health Surveys (NFHS-I and NFHS-II) have provided estimates of total fertility rate by religion. The principal data for the study are from the National Family Health Survey-II (1998-1999), a large survey that covered various aspects of fertility and family planning in all the States of India. This survey covered a sample of 2834 households and 2884 married women of age 15-49 from these households were
interviewed. The sample covered a fairly large number of ever-married women belonging to each of the three major religions; 1501 Hindu (52%), 916 Muslim (31.8%), 465 Christian (16.1%), (0.1 percent women belonging to other religions like Sikh and Jain are not included in the analysis). However, information regarding various denominations or sects within a religion was not discussed in the survey.

In order to examine the levels, trends and differentials of fertility by religion, data from recent censuses, Sample Registration System and other surveys were used. The main statistical technique used in the study is multivariate regression analysis, one of the reliable scientific techniques for examining the effects of various independent variables on a dependent variable. In addition, some other simple tools like average, percentage etc. were also used.

Demographers brought forwarded several arguments (hypotheses) relating to religion and fertility. The important among them are characteristic hypothesis, particularized hypothesis, minority status hypothesis and interaction hypothesis. According to ‘characteristic hypothesis’, the association between socio-economic characteristics and the inter-religious variations in these characteristics caused the religious fertility differentials. On the other hand ‘particularized theology hypothesis’, which contends that religious differentials in fertility are due to differences in religious doctrine, attributes the fertility differentials to the differences in theological prescriptions. The advocates of ‘minority group status hypothesis’ maintain that insecurity of minority group membership depress fertility below that of majority group for competing with the majority population. ‘Interaction hypothesis’ maintains that fertility differentials depend on the interaction between the socio-economic levels
of the religious groups and the local orientations of these groups toward procreation and fertility control.

As regards the religious precepts that the particularized theology hypothesis postulates to have influence on fertility decisions all religions have almost identical norms about birth control and the number of children. In spiritual Hinduism the only reference to the control of birth is indirect, in the context of norms about abstinence. Islam has traditionally been portrayed as not permitting birth control or abortion in any situation. Catholic Church has always been against artificial birth control measures. The Church teaches that parents bear the responsibility before God of deciding of the number of children they are able to bear and educate. But the Church does not believe that married couples have the right, before God, to choose any existing artificial birth control measures. It maintains that any artificial birth control method destroys life and so they are against natural law and are immoral.

However, the data from NFHS-II show that the actual practice of making fertility decision through contraceptive use among the religious groups is not in tune with the preaching of religious groups. Contraceptive prevalence is higher among Hindus and Christians than Muslims in Kerala. Although the use of most methods is lower among Muslims than among women of other religions, Muslims are particularly less likely than Hindu or Christian women to be using sterilization. Notably, Christians in Kerala use the traditional method of birth control twice as much as the Hindus and Muslims. A sizable number of Muslims are also using various methods of birth control measures.

It is difficult to examine the minority group status hypothesis from an analysis of a single State or region, because the minority status effects
get confused with the particularized theology effect. So the present study has concentrated only on the characteristic and interaction hypotheses.

In Kerala, the socio-economic characteristics of the major religious groups are not identical. There are also spatial variations in these factors within the State because of the regional differentials in the concentration of the religious groups. Since the socio-economic factors observed to affect fertility via some proximate determinants, the religious fertility differentials in Kerala may be either because of the differentials in the socio-economic characteristics of the religious groups or due to the spatial concentration of one or more religious groups in some parts of the State (spatial effect).

In the present study it is hypothesized that religious fertility differentials in Kerala is the result of the spatial effect on fertility. In other words, whatever be the socio-economic characteristics of the couple, their spatial settings in certain geographical area influence their decision of the number of children to be born to them. Using the data from the National Family Health Survey-II (1998-99) the present study has tried to examine this hypothesis in the context of Kerala.

There are evidences of significant variations in religious fertility across different regions in India and in Kerala. Using available data from various sources the levels, trends and differentials of fertility have been examined. As fertility rate of some religions varies across districts an analysis of district level fertility differentials has been carried out in order to understand the determinants of spatial variations in fertility. The interaction between religion and other socio-economic variables has been examined by reformulating new variables. The position of the three religious groups on fertility and family planning has been examined from the teachings of these communities.
The study of the levels and trends of fertility in India has clearly shown that, there has been a clear divide between the Northern and Southern States of India. The demographic information made available by the Indian Census of 1981, 1991, and 2001 suggested that as the Muslims had higher fertility than Hindus and Christians, without controlling for the effect of any other factor which might affect fertility, the fertility differences would persist, mainly because the process of demographic transition had started earlier among Hindus and Christians. The total fertility rate (TFR), which was 5.6 per woman in the 1950s, declined to 3.7 in the 1970s, and achieved the replacement level of fertility at the beginning of the 1990s. But against the predictions of many demographers in India and abroad total fertility rate of Kerala declined further to 1.7 by the year 1993, and has remained almost the same till now.

Policies and programmes formulated and executed at the national as well as the State level have played major roles in the demographic transition in the State. Several factors like family planning programme, the maternal and child health care programme, the universal immunization programme, etc. are responsible for the unique demographic transition in Kerala. Kerala did implement these programmes more efficiently than the other States.

Religious differentials in fertility have been empirically documented in 14 districts of Kerala. Among the three major religions, Hindus are dominant in all the districts except Malappuram district. In Malappuram district Muslims hold the first place with 68.53 percent. Christianity takes the second place in all southern districts from Trissur to Thiruvananthapuram. The study has tried to find out the religious differentials in fertility in India as well as in Kerala. But the pattern of the religious differentials in fertility in Kerala is different from that in India.
Religious affiliation of the people has been analysed in the context of the socio-economic characteristics of the three religious groups in order to ascertain the extent of the effect of religious affiliation on fertility behaviour.

There are various socio-economic and demographic factors that determine religious fertility differentials in Kerala and all these variables are mutually interdependent. The socio-economic factors affect fertility via some proximate determinants such as age composition of the population, the proportion of marrying, age at marriage, contraceptive use, level of education and religion. Comparatively high female age at marriage, high literacy especially among women, improvement in the medical and health facilities, etc., can be cited as reasons for the rapidly declining birth rate, the prevailing low death rate, the low infant mortality and the replacement level of fertility in Kerala. An examination of the available data shows that, the socio-economic backgrounds of the major religious groups in Kerala were not identical. Also, it is found that there are regional variations in the socio-economic factors in Kerala. So the multiple regression analysis has been carried out to understand the causes of regional as well as religious fertility differentials and also to examine whether these differentials were due to the differences in socio-economic characteristics of the districts (region effect) or because of the religion effect.

Regional variations in fertility have been examined by an analysis of district level fertility differentials in the State. Almost all the States in India experienced fast decline in fertility after 1960s, though the magnitude of the decline varied from State to State. Based on the nature of transition, one can draw the demographic picture of India with high fertility in the North and low fertility in the South. Among the southern States, Kerala has
long been recognized for its rapid fertility transition occurring in the absence of corresponding economic development.

It is often argued that regional variations in fertility are caused by differences in socio-economic characteristics. Present study carefully examined the available data on socio-economic and demographic characteristics of the population and the extent to which these factors influenced the district level variations in fertility in Kerala in the light of the accepted principles of the demographic literature that education, economic status, work participation, percentage of urban population, infant mortality rate and percentage of Muslim population have a bearing on fertility. Variations in these characteristics have led to regional fertility differentials.

As literacy rate of the people is a significant factor in fertility, the present study examined the literacy of India and Kerala. The overall literacy rate in Kerala has been recorded as 91.05 in 2005, which stands much above all the other Indian States and also much above the all India level of 65.2 percent. The inter district variation in literacy rate and the variations of literacy rate among social classes also have come under the study.

In spite of enjoying better status and position, women in the Kerala have low level of participation in economic activity compared to other parts of the country. There was a decrease in the work participation rates of both men and women in Kerala over the past decades. Work participation rate in Kerala in 2001 was 32.3%, which was marginally less than the all India rate. There were significant differences in work participation rates of women between the 14 districts of Kerala. Male work participation rate in Kerala was recorded as 50.2 percent against 15.4 percent for women.
Rural-urban differences in socio economic variables in the districts level have played an important role in making decision regarding the number of children. However, a notable feature of Kerala’s human development experience is the absence of significant rural-urban gap. Demographic indicators like age at marriage and contraceptive use show only slight difference between urban and rural areas in Kerala. Life expectancy at birth and infant mortality rates show almost no difference between rural and urban areas in Kerala. In 2000, they were just equal in rural and urban areas in Kerala while in the case of India as a whole there was a gap of 34 points between urban and rural areas. The absence of the rural-urban gap in Kerala is due to widespread infrastructure and healthcare facilities in the rural areas.

From 1981 on Kerala was ranked first among major States in India in the Human Development Index (HDI) but its per capita income lagged behind the all-India average till recently. Per capita income, which is an important determinant of fertility, differs across the districts in Kerala. The Regression Analysis has shown a significant negative relationship between per capita income and fertility. In order to examine the role of religion on fertility, percentage of Muslim population was considered in the analysis. It was found that, percentage of Muslim population played a significant role in determining fertility differentials in the districts of Kerala.

In the context of the role of infant mortality in the decline of fertility in Kerala in the 1970s, the infant mortality rate was examined in the study. Among the major Indian States, Kerala has the lowest infant mortality rate as per the latest estimates given by Sample Registration System (SRS), 2006. The district wise variability in infant mortality rate is low in Kerala, except for the two districts of Wayanad and Idukki. In the districts of Wayanad and Idukki, the infant mortality is recorded at the highest level, 1
in 50 whereas in the districts of Pathnamthitta, Kollam and Alappuzha the estimated infant mortality rate is lowest. Regression analysis showed, though not significant, a positive relationship between infant mortality rate and fertility in Kerala.

District wise data from various sources reveal the fact that, the Southern districts of Kerala had lower fertility level than that of the Northern districts. All the Southern districts of the State had attained replacement level of fertility by the late 1980s. To examine the nature of relationship between socio-economic variables and the district level fertility differentials, regression analysis has been carried out relating total fertility rate to selected socio-economic factors considering district as the unit of analysis for the State. Six socio-economic variables such as female literacy rate (FLR), women work participation (WWP), percentage of urban population (PUP), per capita income (PCI), infant mortality rate (IMR), and percentage of Muslim population (PMP) are used as predictors of fertility.

Regression analysis has shown that percentage of Muslim population and per capita income play a significant role in determining fertility differentials in the districts of Kerala. Among the six variables used in the analysis all except percentage of Muslim population and infant mortality rate have negative relationship with the total fertility rate. The Northern districts of Kerala which are characterised by higher percentage of Muslim population and low female literacy rate show higher fertility. In the Southern districts almost all the socio-economic variables are conducive to fertility reduction. It is also clear from the analysis that, the most important factor that contributes to the district level fertility differentials in Kerala is the percentage of Muslim population in a particular region (district). So the question is whether the observed district
level fertility differentials are caused by the variations in socio-economic characteristics of the religious groups or because of the spatial settings of the religious groups.

In the present study a multivariate regression analysis has been carried out using the data from the NFHS-II (1998-99) in order to understand the effect of selected socio-economic and geographical variables on the total number of children ever born among the major religious groups in Kerala. The analysis clearly indicated that the influence of religion remains significant after controlling for other socio-economic variables. Region effect of fertility is also clear from the analysis. The analysis reveals that, Region A (Kasaragod, Kannur, Wayanad, Kozhikode) and Region B, (Malappuram, Palakkad and Trissur) have significant spatial effete on fertility. Among the independent variables age at marriage, level education and women work participation have strong negative relation with the number of children ever born. On the other hand, the respondent’s age, contraceptive use and religious affiliation have a positive relation to fertility. The variables such as respondent’s place of residence, ethnicity and standard of living have not shown any significant effect on fertility.

The result of the analysis of NFHS-II data reveals the fact that fertility differs across religion in Kerala. The differentials vary at different socio-economic settings of the religion and at different regions. But even after controlling for the socio-economic variables there exist differentials in fertility between the religious groups. Demographic studies have suggested that, there is an interaction effect between religion, other socio-economic variables and fertility. This means that religious fertility differentials may not remain constant at different socio-economic levels. In order to understand this, new variables representing different combinations of religion and the other variables have been introduced.
Based on religion and socio-economic variables seven sets of interaction analysis have been performed in order to examine the interaction effect between religion and socio-economic variables on total number of children ever born. Since inclusion of two interaction variables in a single analysis brings in multicollinearity, only one interaction is carried out at a time. Using regression analysis, the effect of the new interaction variables on total number of children ever born has been examined.

The result of regression analysis has shown that the interaction effect of religion and standard of living on total number of children ever born is insignificant. On the other hand, there was the prevalence of Religion X Education interaction effect among Muslims, especially at higher levels of education. Though Muslims have higher fertility compared to Hindus and Christians, they have only small number of children at higher levels of education. The interaction between Religion X Region showed that Muslim X Region A, and Muslim X Region B have significant positive correlation with the total number of children ever born. Among the seven sets of interactions the interaction between religion and region has been seen very significant. The effect of two interaction variables, Muslim X Region A and Muslim X Region B has highly significant influence on fertility. The interaction between religion and all other variables show insignificant effect on fertility.

**Conclusion**

Religious differentials in fertility have been empirically proved in a large number of countries. In India the Fertility estimates from various sources show that, among the major religious groups Muslims have experienced highest fertility (the Sikhs have the lowest). Among the major states in India, Kerala State has achieved a tremendous demographic
transition well recognised world over. Even with replacement level fertility rate of 1.7 children, there exist fertility differentials among the three major religious groups in the State. The present study has attempted to understand the determinants of religious fertility differentials in Kerala.

An examination of the levels and trends in fertility in India and Kerala using data from various sources shows that there is a clear divide between the Northern and Southern States of India. Kerala made a remarkable achievement in the demographic transition from 1950s with total fertility rate (TFR) 5.6 per woman to 1.7 by the year 1993 (that remained around the figure for the last one decade). Even with this advanced demographic condition, religious differentials in fertility have been empirically documented in 14 districts of Kerala. Though, there exist religious differentials in fertility in India as well as in Kerala, the pattern of these differentials in fertility in Kerala is different from that in the other States of India.

Several Socio-economic, demographic and geographic factors are responsible for the religious fertility differentials in Kerala. There are also the religious and regional differences among them. Regression analysis clearly highlighted the role played by the percentage of Muslim population (PMP) and per capita income (PCI) in determining district level fertility differentials in Kerala.

Overall, regression analysis shows that religion remains an important factor influencing fertility in Kerala. At the aggregate level, religious affiliation has an impact on the number of children ever born, which is true for both rural and urban areas. But the fertility behaviour of couples belonging to a religion is influenced by various socio-economic factors such as place of residence, ethnicity, level of education, standard of
living, occupation, contraceptive use etc. This means that the effect of religion is not definitive in the fertility behaviour of the couple.

The analysis of interaction shows that the effect of various socio-economic factors on religious fertility differentials is not the same at different regions. Couples with same socio-economic characteristics residing at different region may take different fertility decisions. After controlling for the socio-economic characteristics, couples belonging to the same religion and residing at different regions take different fertility decisions. So it is not the socio-economic characteristics of the religious groups but the region where the religious groups live or the spatial settings of the religious groups that determine the fertility decision or the number of children born. Though Muslims have higher fertility compared to Hindus and Christians, their number of children at the Southern districts is comparable to that of the other religious groups. Alternatively, the number of children of other religious groups residing in Northern districts is high compared to their brothers or sisters living in the Southern part of the State. Couples who reside in Region A and Region B are likely to have a large family irrespective of their standard of living, education, occupation, ethnicity and religion. Thus, the fertility differential among the religious groups is a phenomenon which is supposed to disappear when the differentials in the spatial settings are minimized to zero. However, the multifaceted relationship between fertility and the spatial dimensions and the ways through which these relationships influence religious fertility differentials are yet to be analysed in greater depth and greater detail. This calls for further research.