CHAPTER IX

SUMMARY AND CONCLUSIONS

Kerala is a classic example of a modernizing society that has experienced radical changes in mortality and fertility unmatched by any such economic or industrial development. By 1980, when the survey related to this study was conducted, Kerala's fertility had settled down on a common low plateau. The decline has continued since then and it is believed that Kerala fertility has now reached the below replacement level. The decline in fertility became conspicuous in the '60s and it consolidated during the '70s, especially in its first half. Although not precisely matched, different sources of data agree with this proposition. The total fertility rate (TFR) declined from 5.1 during 1958-59 to 3.6 during 1975-80 implying a reduction of 1.5 children on an average per woman. In terms of marital fertility, the decline during the same period was from 7.4 to 5.7 (1.7 children less). Fertility declined in all the age groups, but it was primarily due to increase in age at marriage in the younger age groups and due to practice of family planning in the older age groups. But as far as marital fertility is concerned, in the younger ages (below 25 years) there was no decline (in fact there were some observed increases) whereas in the older age groups fertility had considerably reduced. The objective of the present study is to examine in detail the fertility transition process in Kerala by observing the
changes in the subgroup differentials in fertility and its important proximate
determinants during the transition period.

Both historical development and policy interventions had important roles in
shaping the fertility of Kerala. By the middle of the twentieth century, the state
had witnessed massive changes in its social profile. As social transformation
occurred, old values altered and new aspirations of the people led to
changed behaviour. Female status was raised through increased schooling
among females and the resultant rise in their age at marriage. However, with
mortality decline and improved child survival, fertility regulation became
desirable for many. The family planning programme arrived at this opportune
time and it facilitated fertility decline. Due to societal diversity itself, behavoural
response from different social groups differed. To identify the groups at the
vanguard of change and to arrive at the basic determinants, the survey results
are to be interpreted also in a historical perspective. To understand the
changing fertility process in a population, any analysis of survey data should
take into account the changing experiences of cohorts. Due to
interconnections among several socio-economic indicators, the complex
process of fertility change remains obscure and it can be understood only
through multivariate analytical methods. So the survey data have been
subjected to extensive multivariate statistical analysis. The results observed from
alternate analyses are consistent with each other and reveal the transition
process in the state.
When cumulative fertility as a whole was looked into, influences of demographic variables (age, age at marriage) were predominant in deciding the level of fertility. Of the various socio-economic factors, religion/caste was foremost in importance in directly influencing the actual as well as desired fertility of the women in Kerala. Of all religious and castes groups, the Nairs had the lowest and the Muslims had the highest actual and desired fertility. Of the two major Christian sects, the Latin and the Syrian Christians, the former was identified as a higher fertility group (nearer to Muslims) while the youngsters of the latter sect (below 35 years) were seen progressively inclined to have fewer children. Of the different Hindu castes, the Nairs could be identified as a distinctively different group in terms of their low fertility. The household living standard was found negatively and significantly related to cumulative fertility. However, education had relatively lower importance in influencing actual and desired fertility directly than other variables like religion/caste and living standard, although, overall, it was inversely related to actual and desired family size. Since this finding runs counter to the conventional wisdom regarding the influence of education on fertility, important inferences were drawn from the path analysis which was helpful in detecting the direct and indirect effects of the independent variables on the dependent fertility measure.

In the path analysis, a distinction between young and old cohort was not being made, rather 'age' was introduced as a variable in the regression. As expected, this resulted in age being shown as the dominant factor in deciding
fertility. Its effect was mainly direct, positive and significant (at 1 percent level). This was followed by desired fertility as the next important predictor that had only a direct relationship with actual fertility. Referring to education, its direct (net) effect on fertility was too low and insignificant; however it is important to take note of the fact that education had the highest indirect effect on fertility among all the socio-economic factors in all the religious groups except the Muslims. Among the Muslims, living standard had a higher indirect effect on fertility than education. So, while considering the total (gross) effect, education had more effect than district, living standard, and work status among the Hindus, Christians and all the religious groups taken together (path analysis). The mechanisms whereby educational differences had been translated into fertility differentials are differences in age at marriage and differences in contraceptive practice. This is in general agreement with the findings of previous researches in India and elsewhere.

In the case of age at marriage, unadjusted differentials diminished drastically after adjustment (reduction from Eta to Beta value). Yet, it had a significant direct effect (negative) on fertility. Further, the influence of district on fertility was important more among the older cohort than the younger. The northern district (Palghat) had a higher fertility than the southern districts (Alleppey and Ernakulam). Much of the visibly prominent north-south differentials in fertility were due to the compositional difference in education, living standard, work
status and religion/caste between Palghat and the other two districts. Yet, on the whole the district variable was found significant in terms of its direct effect.

Women's works (defined simply as woman worked any time after marriage or not) was identified as an insignificant variable in influencing fertility, although the direction of its influence was as expected. To analyse the influence of female employment on fertility, since several work characteristics are important, the relationship was investigated in detail separately. Regarding the fertility preference, the younger women preferred lower fertility than the older groups. Although differentials in fertility preference existed among the former group, their preference pattern was uniformly lower (desired one child less) than that of the older women.

Just as the fertility decline has not been uniform across the age groups, it has not been uniform across various socio-economic groups. As a result, the differentials that existed earlier had undergone changes and new differentials had emerged during the middle of the transition. There were prominent birth order differences in the starting pattern of fertility decline and in the amount (quantum) of fertility decline among the various subgroups. The analysis of birth intervals has revealed several such characteristics of the decline experienced by different groups. In this context, among the demographic factors, relative age was seen to influence the quantum and tempo of fertility, but its influence was more apparent at higher order of births. The early twenties were the prime ages of fertility and at ages beyond that there remained a tendency for fertility
to decline with increasing age. Similarly, a cohort comparison revealed that the younger women had progressed speedily from marriage to first parity in comparison to the old cohorts. This was due to the shift towards late marriage that had occurred in Kerala. With the third order birth, the cohort differences in the level and timing of births became more apparent. Proportionately less women from the younger cohort progressed towards each higher parity. However, there were moderate quantum differentials (declines) at higher order of births in the middle and the old cohorts (25-34 and 35+ years). The tempo (spacing) differentials between the cohorts were small, about 2-6 months for birth orders 4-6. However, there are indications that the women age 25-34 years practised some spacing methods of family planning.

The period effects on quantum and tempo of fertility revealed the occurrence of the first and second births comparatively early in the '70s than in the '60s, and also a rise in the quantum of first births. Unlike this, reductions in the frequency of occurrence of the third and fourth order births were initiated in the '60s and they accelerated in the '70s (decadal differentials were more with the fourth order births). Prior to the 1970s, 76 percent of the fourth parity mothers had a fifth order birth, but in the '70s this proportion declined to 51 percent. Similarly, 71 percent of 5th parity mothers proceeded for a 6th order child in the '60s as against only 56 percent in the '70s. In short, the period differentials in the third through 6th order births varied between 15 to 26 points (declines were of the order of 18, 25, 26 and 15 points in the respective percentage figures).
period and cohort differentials were consistent with each other and reflected the fertility decline in the state. As regards the spacing of births, the increases spotted in the trimean values were about 2-3 months for birth orders 3 to 6.

Examining the socio-economic differentials, for the 10 and above years of schooling group, the fertility transition began by influencing their third and higher order births while for the other groups it started at a later stage (for those with 1-4 and 5-9 years of schooling from the fourth order onwards and for the no schooling group it started with still higher orders). Thus, from the 10 and above years schooling group 48 percent of the 2nd parity mothers had progressed to third parity while in the other three education groups 66-89 percent reported such progression. Evidently, the fertility transition affected the more educated group at an early stage of their family building process, whereas those with schooling upto 1-5 years, 6-9 years and the non-schooled group were little affected at that stage. Further, for the 10 and above years schooling group the fertility decline started in the '60s, whereas for the other groups the effective declines started in the '70s. Among the less educated groups the decline in fertility occurred through reduction in the frequency of their higher order births.

Similar differences with respect to the timing (calendar period) and quantum of fertility decline were observed among religion/caste groups also. For the Muslims, Latin Christians and SC-ST, fertility remained high during the transition period examined here. Among Nairs the decline began affecting the
frequency of their third and higher order births in the '60s and it gained momentum in the '70s, whereas for the other religion/caste groups, a moderate effect of fertility decline fell upon them in the '60s with slight declines in the quantum of their fourth and higher order fertility. For the Muslims, Latin Christians and SC-ST groups even in the '70s, the third and fourth order parity progression ratios were considerably high. During the '70s, the decline of fertility affected mainly these groups, but only their fifth and above order births. Also the groups differed in the extent of decline. Due to these influences, the religion/caste differentials had undergone changes, although the pattern remained almost the same. This is reflected in multivariate analysis which showed the religion/caste factor having an independent effect on fertility.

Looking into the changes in the spacing of births, there had not been any substantial change in birth intervals. However, the tempo of first and second order births (the first and second birth intervals) had slightly increased. In fact, the second birth intervals shortened by 4-5 months (from 27-28 months in the '60s to 23 months in the '70s). On the other hand, at the higher birth orders there was a slight lengthening of birth intervals. The increase in the trimean values was about 2-3 months for birth intervals of order 3-6. The Nairs had slightly longer spacing (2nd-3rd and 3rd-4th intervals) even in the early stages of transition (the '60s).

The women working on farms had high fertility. Similarly, the high living standard group had a longer birth interval and lower quintums at the third and higher
order births. Consistent with these observations the socio-economically backward and agriculturally dominated Palghat district had a higher fertility (higher quintums for the higher orders). On the whole, the parity examination of birth transitions agreed with the proposition that the fertility decline, in general, starts at higher order of births with the upper stratum of the society affecting the higher order births and slowly (after a lag) it filters down to the lower order of births and lower strata.

The segmental analysis of cumulative fertility enabled to appraise the trend in the differentials at different stages of reproduction and it also helped to unravel the influence or the effect of a variable net of other causally prior variables. Accordingly, the age at marriage had a differential influence on fertility in the first and second decades of marriage. Women married below 17.2 years had a positive relationship with early fertility while those married above that had a negative relationship. The effect was more in the second decade of marriage. As a result, the late marriage cohort tended to have fewer children at this stage and the effect increased as the age at marriage increased. As far as the schooling effect was concerned, women who had 10 and above years of schooling had their early fertility (fertility in the first 10 years) about 10-15 percent lower than the other groups. However, the larger and significant educational differentials in fertility existed in the later part of reproduction (in the second 10 years and beyond). A cohort comparison of the differentials revealed that education effect increased over time. Also, early marital fertility (first decadal)
was not affected much by the adjustment for age at marriage or any other variable whereas the mid and late fertility (second and third decadal) did change due to such influences. Introduction of district, religion/caste and work status did not bring about any substantial change in the educational differentials in fertility. On the contrary, living standard seemed to have some role in explaining the education-fertility relationship.

Similarly, the religion/caste differential was more prominent in the second decade of marriage (mid fertility). The Nairs had on an average 1.6 births less than the SC-ST by the end of their second decade of marriage. When compared with the Muslims this difference for Nairs was 2.5 births. For Muslims and SC-ST their low age at marriage was a cause for their high mid fertility whereas for Nairs their higher age at marriage led to lower fertility. Further, the low educational attainment of the SC-ST seemed to have a prominent pronatal effect on their fertility. As a result, when education was controlled, fertility declined from 27 percent to 11 percent above the mean among the SC-ST group. But among Muslims, the adjustment for education did not alter their relative position. On the whole, education was found to be a factor intermeddilng the religion/caste-fertility relationship in Kerala. The impact of work and living standard on religion/caste differentials in fertility was small. Although Palghat had a lower fertility (in the first decade of marriage) than Alleppey and Ernakulam, the pattern reversed for the later years of marriage, making Palghat fertility significantly higher. The adjustment for age at marriage,
education, religion/caste and living standard revealed their possible influences on the district differentials in fertility.

A separate analysis done to study the age at marriage revealed that the rise in the age at marriage of females was to some extent a function of time in Kerala. In younger cohorts, marriages were seen to occur at a relatively older ages. Age at marriage was strongly and positively associated with education of women. The relationship between age and age at marriage (time factor influence) could be explained to a large extent by the compositional shift in education, especially among the younger women. Raising the female education to matric and above (10+ years of schooling) had a significant effect on raising their age at marriage. Religion/caste also had noticeable influence on the age at marriage. To some extent, the low age at marriage of the Muslims and the SC-ST groups was a consequence of their poor socio-economic circumstances. Women's employment was found to increase the female age at marriage. The analysis done separately for the recent marriages (during 1970-80) showed maximum influence of this variable than 'education' or 'religion/caste'. It was felt that the traditional stronghold of religion/caste on age at marriage could be weakened through modernization influences like female education and female employment. However, it is employment in the non-traditional sector that exerted an effective push on the age at marriage.

The differentials in age at marriage between the northern and southern Kerala could also be attributed in large part to education, religion/caste and
employment differentials. It can be concluded, therefore, that education of women up to a reasonably high level and creation of better employment facilities for them in non-traditional sectors might work as push factors in raising the female age at marriage. It is believed that the increasing dowry demand and growing unemployment among males are also among the factors that have raised the female age at marriage in Kerala. Even if sufficient economic progress in future could facilitate early marriage of females in the state, so long as female education and female employment rates remain high, female age at marriage is likely to remain stable.

At the time of the survey 54 percent of the couples had ever used a method of contraception. In the age group 15-19 years, the contraceptive use was very low (19 percent). The peak use (66 percent) was found in the age-group 35-39 years. The contraceptive use rose steadily with a rise in wife’s level of education. About three fourths of the couples (71 percent), among whom the wives were educated beyond the high-school level, had ever used a method; the comparable figure was only one-third among the couples where the wives had no schooling. Contraceptive use was positively related to the number of living sons, completion of desired family size and not desiring an additional child. Also, among the couples who had a high living standard or were engaged in non-farm activities or belonged to the progressive districts (Ernakulam and Alleppey), the contraceptive use was higher as compared to the other groups.
Among the currently married fecund women, 64 percent were current users. The current practice of contraception among the couples of different marriage duration cohorts did not differ much after controlling for the place of residence, religion/caste, living standard, education and work status. However, after the inclusion of number of surviving children and number of surviving sons as control variables, much of the contraceptive use differentials among the different marital groups diminished (initial percentage difference of 38 points dropped to 11 points). Region is a factor affecting contraceptive use; district differentials in contraceptive use remained the same even after controlling all the other variables. The initial difference between Palghat and Ernakulam declined only from 42 to 31 percent when all the variables were controlled. On the other hand, religion/caste differentials in contraceptive use drastically reduced when the district was controlled. The unadjusted difference of 37 points declined to 18 when only the variable of district was controlled and finally to 10 points when all the variables were controlled. It, therefore, seems that religion/caste differentials in contraceptive use are mainly due to the other influences such as that of place of residence, education, work status, etc.

The difference in contraceptive use by living standard, wife's education and work-status diminished gradually when the other factors were controlled. The completion of desired family size was found to be an important factor in the current use or non-use of any method. The analysis here showed that the differentials in contraceptive use among the different parity mothers depended
more on the completion or the non-completion of desired family size rather than on the number of surviving sons. The logistic analysis also indicated that the demographic factors like age, completion of family size and exposure to any child death substantially influenced the couple's contraceptive behaviour. Among the socio-economic variables, place of residence, education, socio-economic condition and work-status were important in influencing contraceptive use.

As regards the influence of female employment on fertility, a classification of women as 'never worked', 'farm worker' and 'non-farm worker' did not differentiate them with respect to their fertility, rather the work characteristics primarily influenced their fertility. However, women engaged in non-farm activities had an earlier start with contraception and a greater proportion of contraceptive use. The more regularly or continuously employed women, and those employed by non-family members out side home for cash payment had a lower actual and desired fertility. In short, the data proved that better jobs that required a moderate level of schooling of women influenced age at marriage and fertility.

Finally, to assess the lessons of Kerala's fertility transition for India's fertility control programme in the other states, especially the demographically backward states, one can not view the results of the analyses in isolation, independent of the historical developments in the state. This is because the study on the whole revealed the many sided effects of a single variable, female education, on
fertility and the fertility related proximate determinants - the proportion of females married (through age at marriage) and proportion of married females using contraception. In the various analyses done in this study, female education not only had a negative influence on fertility, but it was instrumental in raising the female status variables like female age at marriage and female employment. Although variables like religion/caste, living standard, and place of residence had a significant influence on fertility, their strength reduced when female education was controlled. Yet, the fact that with a time lag there was a full participation of couples with different socio-economic background in the fertility transition, suggests that something other than female education had been conducive to fertility reduction in the state. These are certain typical characteristics of the state.

Although Kerala has not achieved any extraordinary economic success, it has a history of remarkable social progress which was rooted in the social transformation of the society. A society that greeted the communist ideology in the early thirties strongly cherished the goal of equality in human potential, which they realised can be achieved only through education. So, in Kerala, community-based initiatives existed as a movement and they were effective in bringing about radical changes at the grassroots level. Fortunately, the earlier rulers and missionaries had laid a strong foundation for educational uplift and later governments furthered the efforts in this direction. So, although Kerala's demographic revolution is sometimes referred as poverty-induced or a result of
social equality in the state, the basic guiding force was education, which helped the rapid diffusion of behavioral change (demographic) from the upper stratum of the society to its lower strata. The high density of the state, the continuous settlement pattern, an excellent road transportation system (no village is isolated), a large newspaper circulation (leading to a high political awareness) etc. were some of the other factors that made the diffusion easier.

A high fertility was incompatible with the changing aspirations, tastes, and attitudes of the people and in this situation the governmental efforts to promote family planning programme came as a timely help to convert the desire for a small family into actuality. The spectacular progress in health and the low infant mortality made the ground safe for the impending fertility decline.

In other backward states in India, which are much bigger in size than Kerala and where fertility is high, a massive educational programme alone may not succeed today. This is because the strong social will required to lower fertility cannot be generated among the masses without attending to the fundamental issues of health, nutrition, housing and employment. The illiterate do not feel the necessity to become literate or the present education is irrelevant for them. So, for the family planning programme to succeed in these states, education is a foremost need, but for this certain developmental efforts should precede, or at least receive simultaneous attention.