

Transition from high to replacement-level fertility in a Kerala village *



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Abstract

This paper uses a micro-approach to examine the motivation and processes of rapid fertility decline in a Kerala village. Fertility declined in the village substantially during the 1970s and continued to decline to reach replacement level at the time of study. The proximate determinants are postponement of marriage and extensive use of contraceptives. However, the changes in these factors were the result of changing socio-economic conditions. At the time of study the average age at marriage was 29 years for males and 23 years for females, higher than elsewhere in India. Delayed age at marriage was a combined effect of favourable attitudes to education and economic changes. Smaller families became advantageous because of decreasing agricultural opportunities, expanded education and mortality decline. Contraceptives were available with the implementation of the family planning program. Higher use of contraceptives can be attributed to favourable conditions resulting from socio-economic changes.

As the demographic transition is under way in most of the states in India, the case of Kerala has been of interest to demographers as it is often considered an anomaly of the demographic transition theory, which holds that fertility and mortality declines occur only at higher levels of per capita income, industrialization and urbanization (Zachariah 1983). In demographic terms Kerala has achieved a later stage of transition, in which fertility has reached replacement level. Though there has been debate as to the exactness of the levels, trends and timing of the fall in fertility as evidence of demographic change, there is little doubt that fertility decline has taken place in Kerala and that the decline began earlier than was observed in the rest of India (Namboodiri 1968; Mari Bhat and Rajan 1990). However, the exactness of the levels and trends is not the focus of this paper. The focus is rather on explanations for the decline. In seeking such explanations authors have identified high female literacy; the custom of matrilineal inheritance; political leadership committed to social welfare; a settlement pattern that promotes individualism; communication; poverty; and greater use of social services (Nair 1974; Krishnan 1976; Ratcliffe 1978; Nag 1983; Nair 1986).

Explanations put forward so far are based on statistical associations of selected factors derived from macro-level surveys and secondary data, and do not explain how fertility decline has come about. There has not been adequate emphasis on why the communities started to have small families. It is important to ask why some societies have large families and others have small families. Is it because it is beneficial; if so, how? Answers to such

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questions would help us to understand the nature of demographic change, why it occurs and the conditions under which new demographic trends may emerge. I undertook a research project in a village in Kerala, using a micro approach with anthropological as well as the more common demographic investigative methods.

Micro-approaches are by nature participatory, and flexible, and can be improvised depending on need. They also help in acquiring specific and detailed information. Often such inquiries help people to realize the changes that have taken place during their lifetime. Respondents can often relate changes in their lives to overall change outside. They give information on what happened in the village and why, thus providing rich data on the processes of change and the context in which demographic decisions were made. Often respondents are the best judges of their own situations and can explain why certain decisions were made in a particular way.

The study village

The study village, with a population of 2378, is situated in Ernakulam district. Like many villages in Kerala, this village is connected with nearby towns by private buses, giving the villagers access to health services, employment opportunities and entertainment. The houses are scattered in continuous lines. The village has a primary school, which was a village school before it became a government - aided school. After completing primary education the students have to go to neighbouring larger villages for the next level of schooling, but the distance to post-primary schools did not cause students to drop out. In the study village, 95 per cent of both male and female children in the age group 5-14 are attending school; the dropout rate is negligible.

The village does not have any government health services; the nearest health clinic is seven kilometres away. However, there are three private clinics in the village; two doctors in these clinics practise Ayurvedic medicine and the other doctor is trained in the homoeopathic system. Discussion with villagers revealed that most of them go to nearby towns for health services, which are easily accessible because of the adequate transport system.

The economy in the village was changed by the Land Reform Act, which achieved its objective to a great extent in conferring ownership rights on the tenant cultivators and abolishing all the intermediaries; protecting agricultural labourers by conferring upon them permanent occupancy. Though this has not greatly improved the economic condition of the people, there has been a shift in the land ownership; castes and groups who were denied ownership of land were given opportunities or rights to own land. Minimum wage laws were also enacted protecting the agricultural labourers. These reforms helped in abolishing slavery, bonded labour and exploitation of labourers, and spread some egalitarian ideas in the population.

The effect of these laws is seen in the village, where tenancy has been completely abolished and castes which were not allowed to own land in the past can now own land. The agricultural labourers enjoy improved wages and have no economic bond to land owners. Agricultural labourers have organized powerful unions. Members of the upper castes who own land often remark that the agricultural labourers these days behave arrogantly and are not loyal to their masters. According to the labourers, the major change has been the options available to them to pursue non-farming jobs as well as education. Though most families have some land, a majority of them do not depend on agriculture only for income. Almost all families augment their family income through non-farming work, which varies from semi-skilled jobs to office work.

Of the total population in the village, Hindus form 46 per cent, Christians 42 per cent and Muslims 12 per cent. Christianity in general and the education policies of the State have improved literacy levels and health status in the village. The missionaries whose main interest

was the conversion of the natives to Christianity also established schools and hospitals (Nair 1981). Until 1930 the village had two primary schools, one Christian and the other Hindu, teaching mainly religious ideas. The two merged as one school when the government gave grants to promote vernacular schools. Christianity encouraged education irrespective of caste, which strengthened literacy levels in the village. Christianity also favoured female education leading to an improvement in the female literacy level in the state (Jeffrey 1987). At the time of this study, 86 per cent of the population were literate: 89 per cent of males and 83 per cent of females. Emphasis on female education combined with traditional high status of women among the matrilineal castes improved the status of women in the state.

The village has experienced significant changes in its social, economic and cultural structure, from a rigid caste structure to a more egalitarian society. In the past lower-caste people had to keep a distance from the upper castes to avoid polluting them; now such practices no longer exist as a result of social movements which tried to change the traditional caste system. This also gave the opportunity for the lower castes to pursue education which was denied earlier; this is reflected in the literacy levels in the village.

Fertility trends

The village registered a crude birth rate of 18.2 per thousand population and a crude death rate of 4.5 per thousand. Evidence shows that the low birth and death rates for the village are not an isolated phenomenon but a pattern found elsewhere in the state. The crude birth rate for the district where the village is located fell from 36.9 for 1965-70 to 26.2 for 1970-75 and to 21.8 for 1975-80 (Zachariah 1983:43). The birth rate for the whole state fell from 26.8 per thousand population in 1980 to 24.6 in 1983; the death rate for the same period fell from 7.0 to 6.7 per thousand population (India 1984). The crude birth rate for the state for the period 1992-93 was 19.6.

The total fertility rate at the time of the study was estimated to be 2.0. The age specific fertility rate was highest in the age groups 20-24(133) and 25-29(156), while it was lowest among the age group 30-34(69) and 35-39(51). The age-specific marital fertility indicates the effect of delayed age at marriage during the early ages and fertility control at the later period.

The low level of current fertility is indicative of declining fertility in the village, because the total marital fertility rate for the Ernakulam district (in which the study village is situated) during the period 1965-70 was 6.5 and declined to a level of 4.5 during the period 1975-80 (Zachariah 1981:148). The total fertility rate estimate based on the 1981 census for the state as a whole is 2.4 (2.5 for rural and 2.05 for urban areas) which indicates a low fertility (Census of India 1981).

A calculation of the average parity attained by exact age for age cohorts showed a declining trend in fertility level in the village (Table 1). The zero parity at exact age 15 and lower parity values at exact age 18 for older women show that childbearing did not start till late adolescence even in the past. Low parity values at exact age 20 for women in age groups 15-19, 20-24, 25-29 and 30-34 also suggest that childbearing started late among younger women. The small differences in parity values at exact age 25 for all cohorts suggest that though childbearing is delayed, there is no delay in having the first child. The large differences in parity values at later ages suggest that fertility is increasingly controlled among younger women in contrast to the older women once couples have the smaller desired number of children. Parity values for older women suggest that though childbearing was delayed they had high fertility levels. Table 1 clearly indicates that older women had higher fertility than the younger women, and fertility has been declining in the village to reach the current replacement level.

This low level of fertility in the village follows the pattern found in the district as well as the state as a whole. The total marital fertility rate for Ernakulam district during the period

1965-70 was 6.5 and declined to a level of 4.5 during the period 1975-80 (Zachariah 1981). For the rural areas of the state the marital fertility rate declined from 6.9 in 1972 to 4.8 in 1978 and in urban areas from 6.8 to 4.7 (India 1984). According to the 1981 census, the total fertility rate for the state was 2.07, the rural and urban rates being 2.12 and 1.84 respectively. A national survey carried out recently shows that fertility level in the state has reached near-replacement level. There is enough evidence that fertility in Kerala state, both in urban and rural areas, declined faster in the 1970s and 1980s than in the previous decade and reached replacement level in the 1990s.

Table 1
Average parity attained by exact ages for age cohorts, all women

	Exact age		Age at interview						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16		0.00	0.00	0.00	0.01	0.02	0.04	0.03	0.02
17		0.01	0.00	0.00	0.01	0.05	0.04	0.03	0.02
18		0.02	0.05	0.02	0.04	0.05	0.12	0.09	0.04
20		0.10	0.21	0.17	0.25	0.27	0.31	0.21	0.30
23			0.71	0.60	0.92	1.02	0.88	0.85	0.94
25			1.10	1.00	1.38	1.63	1.55	1.62	1.60
27				1.43	1.87	2.20	2.12	2.24	2.28
30				1.90	2.36	3.03	3.04	3.29	3.17
33					2.81	3.63	3.82	4.26	4.11
35					2.99	3.90	4.29	4.79	4.66
38						4.10	4.78	5.56	5.28
40						4.17	4.90	5.85	5.60
43							4.94	6.06	5.87
45							4.98	6.18	5.94
47								6.18	5.98

Source: Pregnancy Histories, 1984-85

Determinants of fertility

Fertility levels and trends indicate that two major factors of fertility decline are deferment of marriage and marital fertility control. During the early stages of fertility decline delayed marriage has contributed to fewer births, while marital fertility control through extensive use of family planning resulted in a steep fall in fertility rates. Delayed marriage age and a deliberate attempt by couples to limit fertility were a response to the overall societal changes.

Marriage changes

At the time of the study the mean age at marriage was 27.3 years for males and 20.2 years for females. The singulate mean age at marriage estimations provided an age at marriage of 29.2 years for males and 23 years for females. Thus the age at marriage in the village is consistent with the trend toward rising age at marriage for the state and the district (Zachariah 1984).

Table 2 shows that the mean age at marriage is rising in the study village. The age at marriage has risen by four years from 23.7 for the period 1917-39 to 27.6 years in 1980-84. The female age at marriage has also risen by four years from 17.6 during 1917-39 to 22.4 during 1980-84.

Table 2
Mean age at marriage for males and females by year of marriage

Year of marriage	Mean age at marriage					
	Males	s. d.	No.	Females	s. d.	No.
1917-39	23.7	3.5	11	17.6	3.1	36
1940-44	26.3	5.9	14	18.7	3.0	27
1945-49	27.2	5.7	20	19.2	3.1	33
1950-54	27.3	4.5	25	19.8	2.9	40
1955-59	26.3	4.2	35	20.3	3.4	41
1960-64	26.5	4.5	46	19.5	2.8	60
1965-69	27.7	5.8	52	20.5	3.6	56
1970-74	27.7	4.6	64	20.8	3.5	67
1975-79	27.6	5.2	91	21.6	3.6	93
1980-84	27.6	4.1	79	22.4	4.1	83

Table 3
Cumulative proportion of married women by exact ages, for age groups, all women

Exact age	Current age							
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
N	128	102	86	77	59	49	34	47
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.01	0.00	0.03	0.02	0.02	0.09	0.04
20	0.16	0.32	0.19	0.44	0.47	0.43	0.50	0.47
25		0.74	0.64	0.78	0.81	0.88	0.91	0.83
30			0.81	0.86	0.92	0.96	0.97	0.94
35				0.90	0.93	0.96	0.97	0.94
40					0.97	0.90	1.00	0.94
45						0.90	1.00	0.94
50							1.00	0.94
55								0.94
Median age	--	22.4	22.8	20.7	20.3	20.7	19.1	20.2

The cumulative proportion of women marrying at exact ages from age groups 20-24 to 50-59 indicates that despite fluctuations due to small numbers, marriages have been delayed in the recent past. The median age at marriage calculated for each age cohort has risen, though it was stable around 20 years for some time.

It is very clear that the younger cohorts are marrying later than did the older cohorts. The small proportion of women married at exact age 15 for age groups 50-54 and 55-59 indicates that early marriages were not common even in the past. The large differences in proportion married at exact age 20 among age cohorts 35-39 and above and 30-34 and below show that the rise has been greater in the recent past. The most significant is among the age group 20-24 where only 16 per cent are married at exact age 20. It is clear that marriages before menarche were rare in the village. The median ages at marriage calculated for women in age cohorts show that half of the women in the age cohorts 30-34 and 25-29 were married at the age of 22, while half of the older women were married by the age of 20. These figures show a rising

trend in age at marriage among women. The rise in age at marriage has been observed among all the groups irrespective of socio-economic status. Thus, though marriage remains universal, the age at marriage is high.

A close examination of marriage histories shows that reasons for delay in marriage were not for restricting fertility but entirely socio-economic. Kerala has always had a relatively high age at marriage; it has been documented that in many matrilineal communities in Kerala, marriages of girls were not performed before puberty (Iyer 1912). One of the reasons for the absence of prepubertal marriages was that in many matrilineal castes women could have sexual relations with men from the same caste or a higher caste and children born to such women were considered legitimate. These practices in earlier days may have resulted in less concern about the modesty or purity of women, which seems to be one of the reasons for early age at marriage for women; elsewhere in India, often the rationale behind prepubertal marriage was to protect female modesty and purity (Caldwell, Reddy and Caldwell 1982; MacDorman 1987). The Nayar Regulation Act 1937-38 which abolished prepubertal marriage also prohibited the marriages of females under 16 and of males under 21 (*Gazetteer of India* 1965). These customs and Acts have kept the age at marriage higher among men and women. Furthermore, Christianity also favoured higher age at marriage as the Christian church believed in adhering to the law to a greater extent. According to the Indian Christian Marriage Act, 1872, the minimum age at marriage for males is 21 years and that of females is 18 years.

With increases in schooling, girls remain in school until late adolescence; rarely were girls withdrawn from school in order to get married. After completion of school the parents generally start arranging the marriages of their daughters. In general it takes two to three years to find a suitable match for the girls and perform the marriage. Because of the dissemination of information and improved education many parents feel that marriage at an early age is not good for women's health as early childbearing would be harmful. Thus education increased female age at marriage.

While socio-cultural values, improvement in female literacy and social reform movements contributed to the rise in female age at marriage, the main factors in the rise in male age at marriage in the recent past were economic. Many men decide to get married when they are in a position to establish an independent household. Older sons generally establish separate households after marriage and the youngest of all inherits the parental house; this phenomenon started when matrilineal joint families started breaking up into nuclear families. This also brought about a change in the residential patterns among the matrilineal castes. Among many matrilineal castes instead of the husband visiting his wife at her residence, they live under the same roof and in most cases the wife moved to her husband's residence as in many patrilocal societies. Marriages were arranged by parents and the principle of caste endogamy was followed. The dowry system which was previously prevalent only among the Brahmins and the Christians (Iyer 1912) was adopted by the other castes. It should however be noted that in the study village, dowry is taken to mean the daughter's claim to a share of her father's property. This claim has been strengthened by the fact that women in matrilineal families inherited property.

With the break-up of joint families fragmentation of land took place and land holdings became smaller. Agriculture was no longer viable and men were forced to seek non-farming jobs which forced them to learn new skills to engage in productive employment. Employment was a prerequisite for the marriage of men; this pushed back the marriage age of men.

Around the late 1960s and early 1970s, the reasons for a rise in the age at marriage were different. Marriage histories reveal that many marriages were delayed when the Land Reform Act was implemented. This Act abolished tenancy and allowed tenants the right to purchase the land. This delayed marriages as many bought land with the money which otherwise would have been used for marriage expenses. Since bonded labour and tenancy were abolished,

many tenants and labourers could not borrow money from their landlords as repaying the debt in the form of harvest and labour was not possible.

Marital fertility control

In the village, marital fertility has been controlled by the extensive use of family planning. Among the married couples with wives under 50 years of age, 69 per cent currently use family planning. The proportion who ever used any family planning method is 70 per cent. Most of them use family planning to limit family size; only 13 per cent use spacing to postpone pregnancies. Spacing methods were mostly traditional methods such as rhythm and withdrawal. The most commonly used method is female sterilization, the pattern found in the state as well as the country. Vasectomy users, though only 18 per cent, were the effect of 'mass vasectomy camps' conducted in Ernakulam.

About 40 per cent of the couples in the 20-24 age group, about 70 per cent of the couples aged 30-34 and 80 per cent aged 35-39 were using family planning. Most couples in the 35-39 age group were sterilized. One-fifth of the couples aged 20-24 and 25-29 were using traditional methods such as withdrawal and rhythm.

A high proportion of couples used sterilization after the third parity. Discussions with sterilized couples revealed that the older couples waited for three children and the younger couples waited for two children before using sterilization. This change is also partly because of the shift in the emphasis on the ideal number of children from three to two by the program planners. At the beginning of the family planning program the messages emphasized three children and later this changed to two children.

However, though child mortality levels were low in the village, couples took child mortality into account before using sterilization as it is an irreversible method. Hence, they decided to have one more child than they desired. It was found that users of any family planning method had a mean parity of 3.2 and non-users had a mean parity of 2.4. Moreover, though differences are small, sterilized couples experienced a lower child mortality than the users of temporary methods and also non-users of any method. The proportion of children surviving from sterilized couples was 0.925, while it was 0.892 for users of temporary methods and non-users of any methods. As the sterilized couples experienced lower child mortality than the users of other methods, they had less fear of child mortality; this made it easier for them to limit their family size. Use of contraception between marriage and first birth was almost negligible.

Around 60 per cent of both Hindus and Christians used family planning; no differences were found with educational levels or other socio-economic factors. Non-users of family planning were either younger with fewer children or older with high fertility. Half of the non-users had not completed their desired family size. Many of these younger couples were not satisfied with spacing methods and felt that as sterilization is the only method available, it was inevitable to complete the family size.

The village family planning program in many ways followed the national program. It can be traced as far back as the 1960s when the 'extension' approach replaced the 'clinical' approach. Moreover, the emphasis was on female sterilization. Discussions with couples revealed that local family planning workers made them understand that it is easier to get sterilized postpartum. The argument they used to convince women was that any additional period of rest is not necessary as it is customary in India to convalesce for three months after childbirth. Women who used the possible loss of wages as a reason against use of family planning could also be convinced about postpartum sterilization.

Increase in hospital deliveries also boosted female sterilizations. The proportion of ever-married women in the age group 15-59 who delivered their babies in the hospital rose from nine per cent in 1950-54 to 27 per cent in 1960-64, to 60 per cent in 1970-74 and to 90 per

cent in 1980-84. Correspondingly, the percentage of tubectomy users rose from ten in 1970-74 to 40 in 1975-79 and to 52 in 1980-84. Of all the sterilizations 80 per cent were done during the postpartum period suggesting that hospital deliveries helped in boosting female sterilizations. In two ways, hospital deliveries helped women. First, many women being literate could read messages on maternal and child health and family planning which exposed them to new ideas. Secondly, they could also ask the medical and paramedical staff in the hospital to explain immunization and family planning.

This high level of use of tubectomy in the village does not mean that people are totally satisfied with the method. There are couples who complained about after-effects of sterilization and maintained that it is the only method available to them. Many felt that spacing methods posed other problems. The official supply of oral pills and condoms was irregular and the brands marketed were expensive. Other problems mentioned in use of condoms were sexual dissatisfaction, insufficient privacy for their satisfactory use and difficulty in disposing of them after use. Intra-uterine devices were not liked as use of these caused health problems among women.

The decision makers

One factor which emerged during the discussions and in-depth interviews was the participation of women in fertility decision-making. Among the currently married couples in the age group 15-45, 35 per cent of fertility decisions were initiated by wives only, while 33 per cent of decisions were initiated jointly by husbands and wives. This behaviour differed with the age of the couples. Among the older couples with wives in the age group 40-59, 60 per cent of the fertility decisions were initiated by the women. This was mainly for two reasons: first, women were more easily motivated to have fewer children because of the inconveniences of childbirth. Secondly, women's decision-making power in the family increases with age and number of children (Hollerbach 1980; Epstein 1982). The timing of decisions among these couples was at a later stage of childbearing; most women were fairly old and were of high parity when they made these decisions.

Among younger couples, with wives below the age of 40, the fertility decisions were more often initiated jointly by the husband and the wife. There was increased communication between the younger couples. The spread of education and a weakening of traditional values regarding husband-wife relationships have led to a greater independence among couples. With the rise in the age at marriage and education, the wife is no longer a shy young bride in her teens, but older and mature enough to take decisions. Old couples often noted that their daughters and daughters-in-law were very free to talk to their husbands, while the older women claimed that they still did not talk freely with their husbands. This change, they believed was due to the movies and reading romantic novels. The strengthening of the husband-wife relationship is one of the factors in weakening extended family relationships (Poffenberger and Poffenberger 1975; Caldwell 1982), thus resulting in a shift in decision making from the head of the family to younger couples.

Initiating the use of the contraceptives also affected the method of use. Among couples in which the husbands were sterilized, 52 per cent of the husbands initiated the idea of using male sterilization, while 64 per cent of the wives initiated the idea of using female sterilization among those couples in which wives were sterilized.

I wanted three children and then decided to use tubectomy. I had previously used oral pills to postpone the pregnancy. No one disagreed (woman aged 27).

I wanted two children but my husband and my mother wanted me to have a female child as my two children happened to be males. The third child was also a male and they insisted

that I should have one more child but I decided that three children were the maximum I could have (woman aged 26).

I decided to have two children as I used to feel very sick during pregnancy. My family members did not agree but I insisted (woman aged 30).

Since sterilization required surgery, the spouses were hesitant to suggest such methods to each other.

We feared complications due to the operation but wanted to have only two children hence husband decided that we use condoms (woman aged 33).

I wanted two children but doctors refused to do tubectomy due to my ill-health. Then my husband decided that he would get vasectomized (woman aged 45).

However, there were instances of wives persuading husbands to undergo vasectomy.

I asked my husband to get sterilized when we had two children. Those days female sterilization was not widespread. So I was not sure of the safety of female sterilizations. Hence I insisted on male sterilization. My husband refused the idea on the grounds that he wanted a female child. I tried to persuade him once again when the fourth child happened to be female. This time he refused, arguing that sterilizations might lead to complications. He agreed only when I assured him that I would take up the family burden if he became an invalid (woman aged 40).

When I got my sixth child (only four survived), I felt that I should stop having children. My husband was a very irresponsible person. He used to spend his earnings on gambling. We lost a bit of land also. I had to work and feed the children. I could not manage childbirth and work. So I asked my husband to get vasectomized. He and my mother did not agree, fearing complications. I had another child. This time I had to promise him that I would take care of the children and him (woman aged 40).

Often in the case of male sterilizations the decisions were sudden because of peer pressure and the attraction of monetary incentives. Even in such cases women did not show any dissatisfaction as they were relieved of childbearing tasks.

The use of temporary birth control methods was jointly initiated by husband and wife; in most cases one made the suggestion and persuaded the other. It was often hard to identify which spouse initiated and who persuaded whom, because using temporary contraceptives, such as condoms, rhythm, withdrawal and abstinence, requires easy communication and understanding between husbands and wives.

When the couples decided to use female sterilization, all of them consulted their doctors, mothers and mothers-in-law as well as women who were already sterilized. The approval of mothers and mothers-in-law was considered important as their help during the postpartum period was always sought. The increase in hospital visits for maternal and child care has proved an opportunity for the women to talk to doctors, mainly about the safety of the methods. Moreover, most women, being literate, were able to read information and clarify their doubts.

In short, fertility decisions were ultimately made by the conjugal pair, though a number of factors influenced the decision. Women played a major role in deciding the family size and also the birth control methods to be used. This was mainly because women could communicate and also enforce their desires. With a tradition of better position of women and spread of literacy among women in Kerala, they had a say in matters of childbearing. According to Dyson and Moore (1983), one of the reasons for greater acceptance of family planning in the southern states of India is that women are less constrained by the influence of

other members of the family and that there is inter-spouse communication, which is clearly important in the adoption of fertility control.

Similarly Shorter (1973) noted that the combined effect of the female emancipation and birth control movements were important in the European fertility decline in the late nineteenth century. A study by Rainwater and Weinstein (1960) also showed that poor communication among conjugal couples and relatively deficient sexual relationships resulted in poor communication.

Desire for small families

The small family has become a norm in the village, and the main reason was the perceived economic cost of bearing and rearing children. There was a general feeling among the couples that children cost more now than in the past because living costs have increased and they have to spend so much on children's education and medical expenses. There were also other issues such as decreasing opportunities in agriculture and the inconveniences caused to women by childbirth. Discussions with old and young couples revealed one main aspect of social and economic change: the nature of child bearing and rearing has been transformed in the village, with a resultant rise in costs.

Perceived pressure on land

There is a strong feeling among the people that land holdings are becoming small and that the income from land is not sufficient to support the family. Villagers had a fair idea that population is growing and felt that land is becoming scarce.

When I came to this village after my marriage, this village was like a forest. There were few houses and few people. Now there are many houses and people (woman aged 64).

When I was a Panchayat Chairman 20 years ago, there were around 200 houses. Now houses have almost doubled (man aged 69 years).

Couples also felt that they did not have enough land to pass on to their children, so that the children could make their living.

I am a casual labourer. I have 5 cents of land. What do I give to my children? I can only give education to them. Two of my children are in primary school and I have already spent Rs.200 for their education (man aged 28).

We do not have any land to give my children. So we have to educate our children. Hence we have decided to have only two children (man aged 29, labourer).

We have only one acre of land and when we divide our land among our children each of them would get only a little which is not sufficient for them to live. We are educating them so that they can get jobs (man aged 49).

Many households in the village owned less than half an acre of cultivable land. The small holdings of wet land and the less labour-intensive dry land (where coconuts, cardamom, and cashews are grown) cannot absorb the large supply of labour, forcing the landless households and the families with small holdings of land to seek employment outside agriculture. Although there is no equal distribution of land, about 65 per cent of the hutment dwellers who traditionally were landless, owned less than half an acre suggesting a shift in the pattern of land holdings.

This was the result of a number of land laws enacted in the state from the nineteenth century onwards (Varghese 1970; CDS 1977); the comprehensive and radical land reform

legislation in the state was the Kerala Agrarian Relations Act proposed by the Communist government of the state in 1960. Although the Act was not implemented because of political opposition by land owners, a series of Acts and amendments were made to the original one and the latest act, the Kerala Land Reforms Act 1971, came into effect in 1970. The main objectives of the land reforms were: to confer ownership rights on the tenant cultivators and to abolish all intermediaries; to protect the rights of agricultural labourers by conferring upon them permanent occupancy and even ownership rights; and to attain more equal distribution of the land by putting a ceiling on holdings and distributing the surplus land to the landless. Oommen (1972) and Gopalakrishnan (1972) show that the first two objectives have been achieved in the state but not the last one.

As a result of these reforms, villagers felt that there has been a decline in work available in agriculture. Since the plots have become small agriculture is not viable and many are growing cash crops such as coconuts and cardamom; paddy is more labour-intensive. Many who worked as agricultural labourers traditionally are working mostly as semi-skilled workers. They work in granite quarries and road construction, and as loaders, a change in the occupational pattern in the village.

Perceived cost of living

The old and younger couples constantly said that living costs were higher now than in the past. This perceived rise in the cost of living is due partly to changing consumer aspirations and partly to the increased penetration of the cash economy. In the past, villagers consumed whatever they grew on the farm, and bought a few additional things such as salt, kerosene and matches. Moreover, the economic interdependence of castes made villages self-sufficient to a greater extent and many basic needs of the people were met at the village level.

In the past we ate whatever we grew. We used to get fish from the nearby river. Now we have to buy many things. It is not sufficient whatever I grow. I buy rice every year (man aged 60 years).

Now it has been difficult to live. We had a lot of land. I lost land at the time of the land reforms. I also sold two acres at the time of my daughter's marriage. My son has just started working. I spent on his education because he cannot live on land alone.

There have also been changes in food and clothing habits among the villagers. The concept of breakfast was alien to the villagers 25 years ago; they ate only two meals a day consisting mainly of rice and a curry for those who could afford it. Many labourers ate *kanji* (a semi-liquid dish consisting of a little rice and a large quantity of water) in the morning and dinner was generally rice. Drinking tea and coffee was unknown to many people. It is now a common sight in the morning that, while a group of men are having tea, one of them reads the newspaper aloud and others listen to him and discuss the news.

The pattern of clothing has also changed in the village. In the past, both men and women were semi-clothed, with only a piece of cloth around the waist. Menon (1979:111) observes that Nayar women and those belonging to the lower castes were prohibited from covering the upper part of the body. Though the position of Nayar women improved during the late nineteenth century, the prohibition continued for women from other low castes for a much longer time. With external influences the concept of proper clothing has continued to change, increasing the expenses in the family.

The lifestyle of the landless labourers has also changed over time. They could, in the past, acquire left-over food, old clothing, and a few things from the landowners for whom they worked. Ever since wages have been paid in cash the labourers have had to buy everything from the shop.

I worked as an agriculture labourer. The land we are living on belonged to the landlord. In the past we were paid in kind and we bought only salt and oil from the shop. Now we buy everything from the shop. Often the wages we get are not sufficient to buy things from the shop. These days one needs cash in hand to live (agricultural labourer, 79).

Now we buy everything from the shop. We always need cash to feed the children and educate them. In the past we got everything from the landowner's farm and cash was not important (agricultural labourer, 44).

Although the recollections of the agricultural labourers on the time when wages began to be paid in cash were not clear, it appeared that, in the study village, the payment of wages in cash (except for threshing) started during the late 1950s and early 1960s. It may have been related to the passing of the Minimum Wage Act in 1948 for different classes of employees of agricultural operations (*Gazetteer* 1965). Even then it may have taken a few years to make a complete change from wage payment in kind to cash.

With the growth of the trade union movement in the state the labourers feel that they are no longer slaves of the landlords; they are proud to buy their own food and clothes and happy to spend because it makes them independent. Agricultural labourers also spend on soaps and detergents to keep themselves and their clothes clean. It is now common to see labourers going to work in clean clothes and changing into work clothes (generally a cloth tied around the waist), and at the end of the day once again putting on clean clothes. Their needs have also changed in terms of proper clothing.

It is not only food and clothing habits which have changed, but also there are increasing aspirations to possess radios and watches and other material goods. Tharamangalam (1981:65) noted that the agricultural labourers in Kuttanad in Kerala had developed new aspirations: this had an effect on their consumer expenditure and made demands on the meagre incomes. Guruswamy (1986:117) also noted changes in consumer aspirations of villagers in Tamil Nadu.

Perceived cost of education

As mentioned earlier almost all the children of school age are in school. Educating children is considered a substantial cost by the parents. Though government-aided schools provide free education, parents argue that there are additional expenses other than the tuition fees. They argue that the school child requires better clothing and also more clothing than children needed when they did not go to school or when they went for a shorter time. There are additional expenses on books, notebooks, pens and pencils. Many activities in school also require extra money. Since transport has become available, many children insist on taking a bus to school. Often parents have to give in to the demands of their children such as for sweets and toys. Because of the small number of children it is likely that each child gets more attention from its parents and that the parents are more anxious to satisfy their children. In contrast, in a large family the children get less attention and often the older siblings take care of the younger ones.

The expenses of schooling varied for children at different socio-economic levels. Data on expenses on schooling are not reliable, partly because parents do not keep accounts of these expenses; however, some could give a rough estimate of the amount they spent. From the available data, the expenses on each child's education in a year varied from Rs.50 to Rs.500, depending on the economic status of the families. The rich always liked to send their children to nearby private schools, which are considered best and are expensive, and they also employ private tutors to improve the skills of the children.

I have eight children. I wanted to give them university education so that they have good jobs. I have only two-and-a-half acres of land which will be very little for each child when

divided. None of my children studied well. I spent Rs.500 for each child every year. I also employed a tutor to help them in their education (agriculturist, 50).

This year we spent Rs. 50 on each child's schooling. Education is the only thing I can give them. Otherwise they will be idle staying at home. They have nothing to do at home (agricultural labourer, 35).

The couples were asked the cost of educating a male and a female child; generally they felt the cost was the same. While a few parents said that they spent more on their sons because sons demand money to buy sweets and toys, others felt they spent more on daughters because of their clothing and other accessories such as face powder and bangles. However, education of daughters was considered equally important.

I have three acres of land and four children. If I do not educate them they cannot live on land alone. We spent more on our female children because of their dress and face powder, ribbons and so on (agriculturist, 51).

If our daughter is educated and has a job we hope that we need not pay dowry for her marriage. Education is the only thing we can give to our sons and daughters. The expense varies with the grade in which they are studying. Sons demand too much and they do not study properly but daughters are always kind and they listen to their parents (labourer, 40).

A number of factors contributed to the rise in educational levels in the village. The recent emphasis on education has arisen because of the determination to acquire non-farming jobs. Every couple of which the wives are in the age group 15-49 said that educating children is important to acquire a job. Though they are not certain about the university education of their children, they said that basic education is essential for any job they might wish to do in future. Non-farming jobs include white-collar jobs as well as carpentry, tailoring, driving or electrical wiring. Parents realize that white collar jobs are difficult to get unless a person has a higher level of education.

Now education is important because one cannot live only on land. I got an acre of land and if divided among the children they get very little. If daughters are educated they need not pay too much dowry on their marriage (agriculturist, 41).

My son is in fourth grade. We spend Rs.300 a year on his education. I want him to be a doctor or engineer. Then he would be respected by society. Perhaps he would take care of us (agricultural labourer, 38).

The increasing trend in non-farming jobs is because the land holdings are shrinking, through the laws of inheritance as well as because of land reform. The division of land began when the Cochin Nair Act of 1920 abolished the matrilineal system and allowed partition of property (*Gazetteer* 1965). Since the act was passed, the division of property has been taking place and the Census of 1951 observed that the highest number of partitions took place in 1939. It also observed that the growth in number of households increased without keeping pace with the population growth. This has resulted in small size of land holdings meaning that families cannot live only on agriculture but need non-farming jobs, which need skills attainable only through education. This increased the number of children who spent longer years in school. Thus the cost also increased.

Another government policy which reduced child labour is the higher wage rate paid to labourers. This has helped in two ways: first, labourers earn enough wages to buy food grains which are distributed through fair price shops in the village. It has been documented that the public distribution system of food grains has been very effective in the state. Secondly, the strong trade union movement in the state indirectly discourages child labour. The wage rates are generally influenced by labour unions which do not fix wages for children as this is

against the Child Labour Act. Also ideas about exploitation of labour are very common among the people and stop them from sending children to work. Thirdly, the cropping pattern in the village requires far less labour. Hence, adult labour is available, leaving children free from work; income from children is practically negligible. Though children help within the family they are not kept from school.

Perceived cost of medical treatment

Similar to the pattern found in the state, the village has also experienced a decline in mortality. Villagers also perceive that fewer children are dying at an early age. One of the reasons for declining mortality is promptness in seeking proper medical service which intervenes in time to stop a person from dying. In the past villagers generally used herbal medicines and also resorted to magico-religious treatment; now villagers generally use Western medicine to cure illnesses. However, other types of medication such as Ayurvedic and homoeopathic treatment were also extensively used by the villagers. Often children were given homoeopathic medicines on the grounds that it is easier to give children these, as the pills are sweeter and smaller, also cheaper. When these have no effect, Western medicine is used. Parents were very concerned about illnesses among children and paid for treatment. This concern is also growing very much with the extensive use of tubectomies which has caused fertility to decline.

People also used more than one treatment if a particular one was not yielding any results. This is partly because there is growing concern about health as well as because of people's beliefs about certain types of treatment. There is a strong belief that people have different bodily constitutions and, depending on their constitutions certain types of medicines are effective. Whenever they saw no improvement from a homoeopathic medicine, people believed that it did not suit the patient instead of questioning the effectiveness of the medicine. Failure was explained in terms of a person's constitution. There were also beliefs that homoeopathy cures simple illnesses and Western and Ayurvedic medicines cure serious ailments. Although Ayurvedic medicines are believed to cure chronic illnesses, people use this system less as it is considered more expensive, takes longer and requires rigorous diet restrictions. Often the belief about Western medicine is that it generates excess heat in the body and requires very nutritious food such as fruit and milk to cool the body.

There were no significant differences in the pattern of treating the sick according to socio-economic status. Most labourers went to government hospitals for treatment as they were cheaper than the private clinics. The plurality in seeking cures has been observed in other parts of India (Gould 1959; Minocha 1980; Caldwell et al. 1982), but this Kerala village differed because of the promptness in seeking treatment and also the narrowing gap in patterns of seeking treatment between different socio-economic levels.

People are increasingly realizing that the cost of medical treatment has risen largely because of these changes in the treatment of illness, particularly in the less fatalistic attitude to treatment. As a rule, government hospitals are free but, in practice, visits to them involve costs such as transport and the purchase of medicines. Whenever a child has to be taken to hospital in a nearby town, both husband and wife go together; this often means that the husband loses a day's wages. Government hospitals are crowded and one has to wait a long time for service, so people visit private clinics and hospitals which increases expenses. There is also a belief that the government health services are poor and one has to bribe the staff to get good service. This forces people to visit private clinics.

The rise in the number of hospital visits for antenatal checkups, deliveries and postnatal care has increased medical costs. Now, childbirth is considered more expensive than in the past when births were attended by traditional birth attendants at home.

Increased desire for small families by women

Though cost was an important issue in desiring a small family, women also desired small families to overcome such practical inconveniences as performing day-to-day chores during the antenatal and postnatal periods. The absence of anyone to care for the older children at the time of their mother's delivery and postnatal period has become a problem since nuclear families have become a common residential pattern. There are other costs. For the delivery of the first and to some extent the second child, women generally visit their mother's house; subsequent births take place at the husband's house. This means that the husband or a member of the husband's family has to help the women at the time of childbearing; if the husband helps on such occasions he must forgo his wages.

In the study village, 60 per cent of the women who stated they were currently housewives said that they discontinued working after marriage in order to take care of the children. Half of them expressed the view that they would resume working once the children were at school and 30 per cent were concerned that their going to work could disrupt the systematic care of their children or would affect the children's health.

The mothers in nuclear families are likely to spend more time in child care than those in joint families, where child rearing is shared by other family members, particularly grandparents whose time is least valued, so that the mothers can devote more time in an economically fruitful way, in activities such as food processing, farming and farm related work. Since nuclear families have become widespread in the village, the women are spending more time on child care and this may have helped in reducing child mortality in the village.

With changes in education in the village, the older children are still at school when their younger siblings require minding, and child care becomes a problem when the women have to attend work outside the house. With changes in family structure and in education, women are spending more time on each child's care, so they want small families.

Though the cost of bearing and rearing children was the reason for desiring fewer children, there were no couples who deliberately decided not to have children and everyone wanted children because of the pleasure of having children, the continuity of family lineage and the need for old-age security. Everyone believed that sons are needed to continue the family name and daughters are needed to nurse their parents in old age.

Though old-age security is one of the motives for couples desiring children, it does not influence the number of children they desire and was not the reason for having a large family. For many parents it was only a hope that children would take care of them. Moreover, the changing social and economic conditions leave the parents wondering about the future economic benefits from children. In some cases parents argue that, if they provide a better life for the children, which they can do more easily with fewer children, there is a greater chance that the children will take care of them.

Some cultural and social factors in the village gave some security to the old parents. There are strong cultural norms that old parents should be cared for and since there are no social taboos preventing parents from living with married daughters, both sons and daughters are equally valued. This situation is different from that in patrilineal societies found elsewhere in India, where strong social taboos prevent parents from living with their married daughters, and so they prefer more sons, which often results in large families (Karve 1953; Mamdani 1972).

The nature of the division of the property in the village also gives some security to parents in old age. The property is divided equally among all members of the family and the parental share of the property is inherited by the youngest son, since generally daughters live at their husbands' houses, thus parents live with their youngest son during old age.

Land reforms also allowed the landless labourers some security: the hutment dwellers could own the piece of land on which they had lived for a long time. Landless people can also

build a house on government land but have to vacate it if the government needs it, and compensation is paid at the time of vacation; this has given some security to the landless people who can build a hut on a small piece of land.

The agricultural labourer over 65 years of age now gets a pension of Rs.65 a month which gives him some support in old age. However, at the time of the study, the old parents in the village generally lived with one of their sons or daughters. Of the 450 households in the village, eight were single-member households. Of these three were priests, two in churches and one in a Pulaya temple, and they had never been married. Four separated childless women in their thirties, working as labourers, lived alone and a man aged 48 years who had never married lived alone. The four women, although separated from their husbands, lived very close to their brothers' families and they received support from their brothers whenever needed.

It was a norm in the village that the married daughters lived with their sick parents to nurse them. At present people still adhere to norms such as daughters nursing and sons providing for their old parents, but it is hard to predict the future because the couples who are getting some old-age security have fairly high fertility. The couples whose fertility is low are still young and still have children in school. Wanting old-age security did not affect the number of children the younger couples desired, because old-age security was a thing parents could hope for, whereas child-rearing costs were immediate.

Societal changes and preference for the small family

It is clear from the in-depth interviews that parents in the study village desire small families and this desire is because of the increasing cost of child bearing and rearing due to changing lifestyles in the village. The major changes in the village have been a reduction in the man-land ratio, the increased monetization of the economy, educational changes, mortality changes and introduction of family planning.

Because of population growth and inheritance, land holdings became small and in most cases were not viable for agriculture. Many peasants found agriculture not very productive because of the monetization of the economy. The peasants needed cash to carry out agricultural operations such as wage payments and buying better seeds and fertilizers, and often had to seek jobs outside agriculture partly to supplement the family income and partly to earn the cash needed for farming. The small size of holdings also caused a decline in demand for agricultural labourers. The Land Reform Act also brought changes in the agricultural sector. Although land reforms conferred tenancy rights upon the agricultural workers, those who did not have cash could not buy land; they suffered partly because the Kerala Land Reforms Act of 1963 also banned the creation of new tenancies (*Gazetteer* 1965) and because land owners were apprehensive about giving land for tenancy for fear of losing it.

This change forced many people to seek non-farming jobs. Education was the only means to acquire special skills needed for non-farming jobs, forcing parents to send their children to school, and educating children increased the cost of child rearing and decreased the work contribution of children to the family economy. Growing coconuts, pepper, cardamom and cashews in the village is far from labour-intensive and there is always a surplus of adult labour, so children seldom worked on the land and parents sent them to school.

The Minimum Wage Act also reduced the demand for child labour and created a situation where children could easily be sent to school. The wage rate of agricultural labourers has been high enough for them to buy food grains at fair price shops at subsidized rates. The involvement of government and trade unions in fixing wages prevented employment of children. The concept of exploitation is very powerful perhaps because of the active Communist movement in Kerala.

Apart from these changes in the village, the ability to read and write is greatly valued, particularly among the lower castes who were previously denied education. Literacy developed in Kerala State because of better rainfall and the growing of cash crops (Gough 1968), overseas trade, government policies, the commercialization of the economy (Nair 1983; Tharakan 1984), the position of women and government policies (Caldwell 1986; Jeffrey 1987).

The result of these changes was mass schooling. After a thorough examination of the relationship between fertility and education, Cochrane (1979) showed that the initial stage of mass schooling is associated with high fertility, but, as the process continues, mass schooling decreases fertility. Caldwell (1980) argued that with mass education the family economy changes and affects the direction of the wealth flow between generations and ultimately results in low fertility.

One direct influence of mass schooling on fertility is that the children cost more as parents spend more on schooling and because as the children spend long hours in school their contribution to the family income declines. The work contributions and cost of children and the net value of children as a component of fertility decisions have been well established (Hoffman and Hoffman 1973; Arnold et al. 1975; Bulatao 1975, 1979a,b, 1981; Hull 1975; Mueller 1976; Fawcett 1977; Nag 1978).

To some extent, mass schooling has produced an egalitarian society in the study village, where the lower castes have been able to improve their status through schooling and the jobs

associated with education. Thus, a person born in the Pulaya caste does not have to remain an agricultural labourer but can improve his status through education.

Schooling also helps the people to have access to more sources of information. Although knowledge of birth control and child health care is spread by door-to-door service, the ability to read the literature on family planning and health care provides more information than is given by the health staff during their house visits.

Changes in mortality

Mortality decline, particularly the decline in infant mortality in the village, has indirectly contributed to the fertility decline. The estimation of infant mortality from the retrospective birth histories in the village showed that infant mortality had declined from 102 per thousand live births for the period 1950-54 to 68 per thousand live births during 1970-74 and to 20 per thousand in 1980-84. The decline was sharp, particularly during the 1970s. This decline in infant mortality has assured many couples of the likely survival of their children, thus affecting their fertility decisions.

Infant mortality decline in the village is a combined effect of government policies and the community response to these policies. At the governmental level, health services are free; maternal and child health programs provide free antenatal and postnatal care, and immunization of children against diseases. At the time of the study, every child below the age of five was immunized against illnesses such as polio, tuberculosis, diphtheria, pertussis and tetanus. Mothers used their initiative to find out the place and time of the immunization program organized by the government health departments or by the missionary hospitals.

Apart from the government health services there are hospitals run by Christian missions which provide health services at a reasonable price; one of the missionary hospitals in Ernakulam gives free treatment to poor people.

The decline in infant mortality can also be attributed to the role women played in seeking health services. In the study village it was observed that when they were both present, husbands and wives made decisions jointly regarding where to go for treatment or what type of medicines to use; but a striking feature of decision making was that women were free to decide about treating the children in the absence of their husbands. The freedom for women to decide about children's health is a significant factor because mothers were usually the first to notice the sickness of the children and they took immediate action to treat the illness.

The women could make decisions because Kerala women enjoyed higher status than women elsewhere in India. Cultural factors contributed to the higher level of decision making power among women in the village. They were not restricted to the four walls of the house like women in other states in India, particularly North India. This kind of freedom was enjoyed by the women because of the tradition of matriliney and the spread of Christianity. Women were used to making decisions about their children when matriliney existed in the state. They made most decisions regarding the children, as the fathers had very little responsibility towards their children and they did not live under the same roof. Mateer observed of the women in Kerala:

Unlike their sisters in North India, the restraints imposed on them are few. They are not restricted to their own apartments, and the mother of each household occupies a dignified and honourable position. In the families of the Nayers she governs the whole house ...Her duties are not light, for, besides buying, storing up and giving out food for many mouths, she regulates the lives of the children, decides what schools they shall attend, how they shall dress, and what medicines they shall take when they are ill, their own mothers having no choice in anything that concerns them (Mateer 1883).

This illustrates the extent to which the women enjoyed freedom and status in Kerala over a hundred years ago. Women had great freedom of movement and decision-making power even in the past, with the exception of the women in the Nambuthiri caste. Many castes who followed the Nayars showed similar behaviour. Apart from matriliney, Christianity also contributed to improving the status of women.

The freedom of movement and the better status of women has contributed to higher literacy levels over the decades. It has been well established that the chances of child survival increase with higher level of female literacy (Caldwell and McDonald 1981). Literate women are more likely to know where the services are available and what type of medicines are effective, and are in a better position to convince their immediate family members. Since community-level female literacy is high, illiterate women are likely to observe literate women in the neighbourhood and to be influenced by them. Now, with education and employment, women's status has further improved. The freedom of movement has also allowed them to visit clinics without depending on male members of the family. When a child is sick the mother need not wait for her husband to return from work or ask the permission of in-laws to visit a doctor.

The major factors in declining mortality are health intervention programs, greater use of these services by all socio-economic groups and the organized transport system which helps in reaching these facilities. The in-depth interviews in the village showed that child survival played an important role in fertility decisions. However, it was also found that the couples with a few children provided enough health care to the children to stop them from dying. The greater chance of survival of the children motivated couples to limit the number of children, and the motivation to regulate fertility stopped children from dying by providing them with proper health care. Thus a two-way relationship was found between the fertility and infant mortality levels.

Family planning program

Largely because of socio-economic change the small family has become a norm in the village. The official family planning program has helped in regulating the number of children desired by the couples, but because a demand for a small family has emerged because societal changes, it is hard to separate the effect of family planning alone on fertility decline in the village. One argument put forward in explaining fertility decline in Kerala is a well organized family planning program (Kurup and Cecil 1976), but can the program succeed without a demand for small families? Pai Panandikar, Bishnoi and Sharma (1983) have shown that the success of the family planning program depends on community acceptance. However, the availability of family planning services cannot be ignored in explaining fertility decline. There is little doubt that the family planning program has succeeded in promoting knowledge and awareness; two other important components are the free availability of family planning methods and payment of incentive money to users which contributed to the acceptance of family planning. Given the socio-economic changes in the village, fertility would have declined, but with the existence of family planning program the rate of decline has been faster.

Conclusion

The transition from high to replacement-level fertility in the village is mainly because of postponement of marriage and extensive use of contraception, resulting from socio-economic changes in the village such as the monetization of agriculture and improved literacy levels. These factors seem to be common in Indian states such as Karnataka and Punjab, where fertility transition is taking place (Caldwell 1982; Nag and Kak 1984), but Kerala differed

from these states in its faster decline in fertility, since factors promoting lower fertility came into effect much earlier in Kerala.

The state has been experiencing changes from the beginning of this century. As a result of the changing political and economic situation during the second half of the nineteenth century and the first half of the twentieth century, agriculture became commercialized very early in Kerala. Literacy levels improved over the decades partly because of overseas trade and partly because the lower castes demanded the right to education. The combined effect of matrilineality and Christianity improved the status of women, which is reflected in improved female literacy levels and high female age at marriage. Mortality decline began early in Kerala owing to the health care programs introduced by the Travancore and Cochin governments (Panikar 1975). Thus, the state of Kerala underwent a number of socio-economic changes during the early part of the century. These changes created a need for smaller families and small families became advantageous.

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