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PREFACE

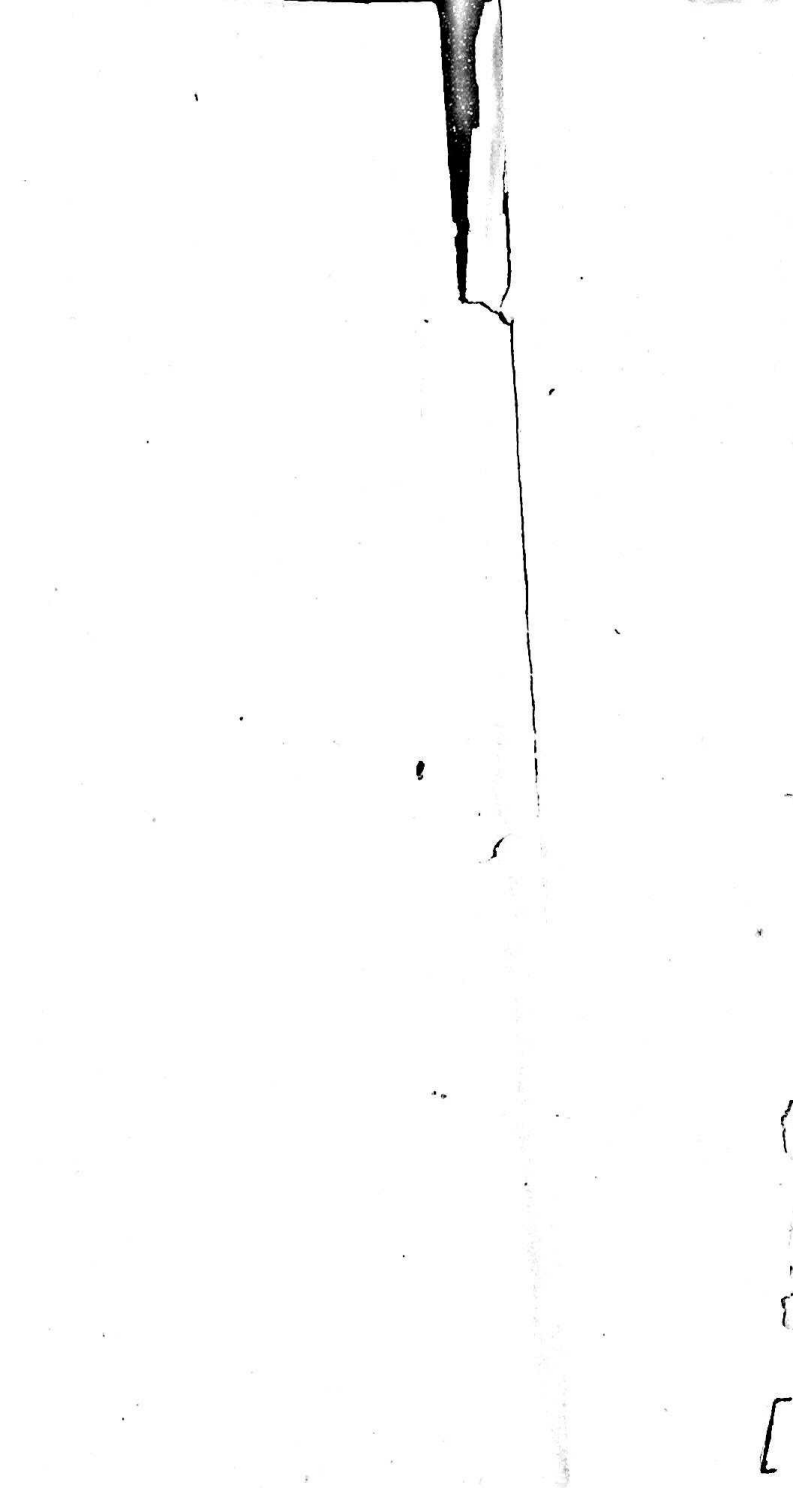
The Demographic Research Centre has published 96 Reports. Most of these Reports are cyclostyled and copies of many of them have been exhausted. Repeated requests are being received from various agencies for the supply of these Reports/Studies. To meet this growing demand, some of the important reports published since 1970 by the Demographic Research Centre have been selected and presented in this volume.

The Reports have been classified under various headings such as Characteristics of Acceptors, Evaluation of Mass Camps, KAP Studies, Fertility, Mortality and Migration.

It is hoped that this volume will be useful to Planners, Demographers, Family Planning Workers. Suggestions for improvement of this volume are welcome.

Trivandrum,
18-5-1978.

Dr. P. A. NAIR,
Director.



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Family Welfare Programme

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1.1. STERILISATION PROGRAMME IN KERALA—ABROAD STRATEGY OF ECONOMIC DEVELOPMENT

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STERILIZATION PROGRAMME IN KERALA—ABROAD STRATEGY OF ECONOMIC DEVELOPMENT

by

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do.

1. *Introduction.*—Economy of Kerala is typical of a developing nation and the efforts of the economic development of the State are being nullified by the fast growing population. Thus the population problem has become a problem of economic development. In other words, the State can achieve economic development by a rational approach to the population problem.

2. *Demographic characteristics of the Population of Kerala.*—Demographically, Kerala is unique in many respects. It has a population that is already large and is growing rapidly at the rate of 2.3 per annum. Compared to other States of India it has the highest density of population, the highest level of literacy, the excess of females over males in the total population, the highest mean age at marriage of females, lower level of mortality and a higher proportion of workers in non-agricultural sectors. Though economic development is a function of so many factors like capital, investment, saving, resources, institutions, broadly the culture etc., it is akin to population growth in one way or other.

3. *Births and deaths.*—The salient demographic characteristics of the population of Kerala are high fertility and low mortality resulting in a rapid growth of population. The birth rate of Kerala was about 40 during 1931-40 period and the death rate was also as high at 29, resulting a growth of 11 persons per 1000 population. As years passed by, death rate started falling at a faster rate than the birth rate under the impact of public health programme and medical improvement in the State. Table I brings to light that a reduction of 5 points in birth rate from 1931-40 to 1967-68 period is marked by a fall of 19 points in death rate. The result is an alarming net growth of 25 persons per 1000 population. This phenomenon continued for some more years. The magnitude of population growth is quite alarming. It took nearly 50 years for the population to double itself in the early decades of this century but it requires only just half the period to double its present population.

*Views expressed by the Authors are not necessarily the views of D.R.C.

4. *Standard of living.*—Rapid growth of population affects the standard of living of the people. Standard of living is in fact a function of four variables viz., natural resources, inventions, social organisations and the population, of which population is more pertinent in Kerala context. With meagre resources at hand, with scarcity in food, over-crowding in land, with increased unemployment and under employment the standard of living of the people finds no better prospects in the near future.

5. *Investment.*—Further high rate of population growth requires a high level of investment to achieve a given per capita output. This is better explained in a simple illustration*. Consider two populations A and B that are equal in size and accumulated capital and in output. Assume population A grows at a rate of 1 per cent a year and population B at 3 per cent a year. If the ratio of capital stock to current annual output is 3 to 1, population A must invest 3 per cent of current output to maintain its per capita income, while population B must invest 9 per cent of current output. In Kerala, the supply of capital is limited. So a higher rate of population growth forces to duplicate investment to maintain the existing facilities, preventing an increase in capital available for each worker.

6. *Age structure.*—Rapid growth of population adversely affects the age structure. The principal determinant of the age distribution of a population is the course of fertility (migration is ruled out). Rapid growth creates a greater proportion of young population which means a larger dependency load. 53.5 per cent of the population are in the age group 15-59 (as per 1971 census). 40 per cent of the people are below 14 years of age. In contrast, the advanced countries like U.K. only 25 per cent are seen in the 0-14 age group. The dependency burden will be much serve when unemployment and underemployment are in existence. More than 65 to 70 per cent of the population are in the earners category in advanced countries. But Kerala has only 53.5 per cent in this category.

During 1961-71 period, while Kerala shows a decrease of 2.3 per cent in 0-14 age group, there is a visible increase of 2 per cent in the earners category. This change in the age structure is very favourable for the economic development of the State. This can be attributed to the fall in birth rate in this decade.

7. *Family welfare and per capita income.*—Rapid growth of population, in a State like Kerala, affects the family welfare and per capita income. An income that permits moderate comfort in a family with two children may mean under-nourishment and over-crowding in a family with ten children. The greater the number of children, the greater will be the

*W. Parker Mouldin—Population of India—In population vital revolution—
Edited by Ronald Freedman, P. 201.

burden on the budget of a family with meagre income. Further, if children are born at close intervals the health of the mother too will be affected. Kerala which produces only half of her food requirement, has a very low per capita income (Rs. 579 at current prices in 1971-72).

8. *Savings*.—Kerala has very inadequate savings that can be invested in capital goods to improve production or to maintain its per capita income. The extent to which an economy has to invest as a proportion of its income in order to keep the per capita income at a constant level would give the magnitude of the resources that are wasted to absorb the growth of population. In a country like India, it is estimated that 10 per cent* of Gross National Product has to be invested in order to keep the per capita income at constant level (Per capita income though rather a crude measure of a country's level of economic development, it measures the economic well being of the population in a general way).

9. *Economic development—two alternatives*.—For economic development of the State, we have two alternatives either we should procure capital investments sufficient to off-set the population growth and bring in welfare to the people at large, or bring in economic developments by reducing down the population growth. Hence it is imperative to have a concentrated effort to bring down the fertility rate to a considerable extent within a reasonable time. If we want to enjoy the benefits of economic planning, we should have a family planning programme which should be regarded as a programme for the economic development.

In the above paragraphs we have seen that as a result of high birth rate, the number of children in the total population is fast increasing and the State is under compelling necessity to expand ever greater resources simply to keep its people from slipping beneath the poverty line or the substance level. Consequently, what we have achieved through five year plans have been nullified by the growing population.

10. *A strategy to reduce birth rate to 19.5 in 25 years*.—An attempt has been made in this paper to chalk out a strategy to reduce the birth rate of 1961 to half in 25 years. The fact, that the birth rate has started falling since the starting of the family planning programme in the State is taken into account. A point of importance to be noted here is that the death rate which had started falling sharply has reached an optimum level of 9.7 per thousand in recent years. A strategy to reduce the birth rate by family planning programme has been worked out and given in Table III. Total number of sterilisation conducted so far and the targets of sterilisation for the years to come has been given in column 2 of the Table. The number of births averted every year due to sterilisation programme and other methods are also given in this

* Finance and Development No. 1 1969 P.8

table. As a subsidiary to this, Table IV is given, indicating the birth rates and death rates for the years 1957 to 1991. The assumptions and explanations regarding the calculation of the births averted etc., are indicated at the end of the tables. Targets fixed for the years are in conformity with the targets fixed by the Department of Family Planning for 5th Five Year Plan period and an increase of 10 per cent to this target for the periods upto 1981 and a constant target of 2 lakhs every year for the rest of the period. It may be well to point out that the influence of age at marriage, literacy etc., is not taken into account while calculating births averted by family planning for the periods 1957-58 to 1990-91. An increase noticed in the population constructed when compared with the actual population as per censuses is mainly due to this.

11. *Benefits by the reduction in birth rates.*—If population is allowed to grow at the present rate of 2.26 per cent per year, it would be 299 lakhs in 1985-86. But it would be 280 lakhs as per the programme given in this paper. Age distribution given in Table V is adopted from the Coale and Hoover model constructed for the less developed countries in the event of a decline in birth rate by 50 per cent in 25 years.

12. *Age structure.*—Table V brings to light the effect of a fall in birth rate which affects 0-14 age group. The burden of dependency would fall and this would increase the per capita income and individual welfare, for there will be more earners for the dependents.

13. *Sterilization programme to achieve the target.*—To bring down birth rate, a target is proposed (Table III Col. 2) for the years. A concentrated effort to achieve it is essential and it is possible also. The implementation would certainly face many problems.

14. *Two approaches.*—Sterilization programme has two approaches (1) Normal sterilization programme attached to the hospitals and (2) Festival approach. Are the people of Kerala prepared to accept the sterilization programme whole-heartedly? A small family size is a new ideal in contrast to the traditional large family size. Family Planning is set on a new ideal of family limitation. This spells a change from traditionalism to modernism. From time immemorial, the attitude of the people towards sex and sex relation is hidden. Social restrictions imposed on sex relations, the norms and values attached to sex and sex relations for ages, past have shaped the attitude of the people towards sex. Many are the moral codes attached to sex. Any change in the existing norm will be looked down with contempt or will be looked upon as a deviant behaviour which goes against social conformity. K.A.P. surveys conducted at various periods reveal that people are hesitant to put in to practice what they know. If at all they practise they hardly reveal it and keep it as a secret. It is because that they are not sure of what other thinks of them. When family planning gets social acceptance of the people at large it becomes a way of life as in western

countries and family planning will become a matter of the individual. No persuasion in this regard is required.

In between the old pattern of family building and the new pattern of family size, there is a gap which we may call it a cultural lag. *Cultural lag occurs when one of two parts of culture changes as before or in greater degree than the other part does thereby causing less adjustment between two parts than those existed previously. When the cultural lag disappears the programme of family planning will reach a take off stage. Till the time the communication apparatus should be set in to bring the common man closer and closer to Family Planning Programme.

15. *Festival approach.*—Festival approach to family planning is aimed at minimising the cultural lag by festivity. To achieve the desired target of sterilization, the camp approach is high yielding. It is seen that what was achieved during the past five years in normal programme in certain districts of Kerala have been achieved by a single camp. So the camp approach can profitably be used to achieve the said target if any laxity in the normal programme is perceived.

Sterilization camps have many advantages over normal programme. It creates enthusiasm and a feeling of oneness and one purpose. Those who attend the compare jubilant and the purpose of those who attend the camp is the promotion of family planning. Inside the camp all are the advocates of birth control. The promoter, the Doctor, the participants—all have identified themselves with a common goal i.e., Family Planning. The jubilant atmosphere, coupled with the generous and respectable treatment, one gets, generates confidence, a purpose and a bright future. Apart from that the liberal incentive that is offered per operation, not only to the acceptor but also to the promoter, Doctor, Nurse etc., makes the camp all the more attractive. So the festival approach is appropriate and is widely appreciated by the people. There is another side of mass vasectomy camp. It inhibes certain evils also. The promoter, the Doctor and the acceptor are the three major components of the camp who are co-ordinated for one purpose i.e., to sterilize as many number as possible. Here the promoters are not bothered about the welfare of the acceptor. Their interest lies in the number of sterilization and not in the welfare of the person after the operation. Further in their hectic activity to canvass as many number to the operation table, they took even young unmarried or even old people for this. To illustrate—in Trichur camp 465 persons have been rejected on the ground that they have been operated earlier. In Trivandrum camp more than 490 persons were turned down on this ground. The poverty of those persons are exploited for this purpose. Medical attention before and after sterilization is rather impracticable in a temporary camp. Further Doctors, drawn from the various institutions, can hardly know what happens to the acceptor the next day. Their responsibility terminates at the

operation table itself. Besides mass camps give room for complacent attitude of the family planning workers. With all these limitations, a mass camp can do in a month what an army of medical and paramedical officers fail to do in five years. The success of the camp depends on the organizational efficiency of the organizers in co-ordinating the various activities smoothly.

16. *Characteristics noted among the sterilised.*—In this connection a few observations on the sterilised persons are pertinent. Distribution of sterilised persons from the beginning of Family Planning Programme highlights that literates favour sterilisation more than illiterate. Among literates, those who adopt it are of literacy standard below middle school (Table VI). It may be presumed that highly educated people resort to other methods of Family Planning. Another factor noted is that most of the male persons are drawn from 30-44 age group and female from 25-39 age group (Table VII). The peak reproduction period of Kerala women is between ages 20-39.

17. *Summary and conclusion.*—Economy of Kerala is typical of a developing nation and population problem is a problem of economic development. The salient demographic characteristic of Kerala population are high fertility and low mortality resulting in a rapid growth of population. It took 50 years for the population to double itself in the early decades of this century but it will double its present population in 30 years. Rapid growth of population affects standard of living. High rate of population growth requires a very high level of investment to achieve the given per capita income.

Population growth also distorts the age structure. It creates a greater proportion of young population which means a larger dependency load. 53.5 per cent are in the age group 15-59 and 40 per cent are below 14 years of age. The corresponding figures for advanced countries are 20 and 25 respectively. It affects the family welfare and per capita income.

Two alternatives are before the State (i) Invest sufficiently a huge capital or (2) reduce fertility and save money for further investment. What is needed for feeding the growing population could be used if fertility is reduced, for making amnities for improving the standard of life of the people.

Taking this in view a programme for family planning (giving emphasis to sterilisation) is chalked out to reduce fertility to half. This is proposed to be completed in 25 years time starting with 1961. By the time we reach 1986-87, 29 lakhs sterilisation are to be performed as given in the Table III which in turn reduce birth rate to 19.8. The targets are not over ambitious though a bit difficult to achieve under normal programmes. The festival approach to family planning can profitably be used to achieve the desired targets. Whenever normal programme shows weakness or failures the festival approach can be rationally adopted.

TABLE I

**Birth rates—Death rates and natural growth of Kerala
for the periods 1931-40 to 1970-71**

(of migration is ruled out)

| <i>Periods</i> | <i>Birth rate</i> | <i>Death rate</i> | <i>Natural growth (per 1000)</i> |
|----------------|-------------------|-------------------|--------------------------------------|
| (1) | (2) | (3) | (4) |
| 1931-40* | 40.0 | 29.07 | 10.93 |
| 1941-50* | 39.8 | 22.27 | 17.53 |
| 1951-60* | 38.9 | 16.89 | 22.01 |
| 1965-66@ | 37.9 | 10.11 | 27.79 |
| 1966-67@ | 37.2 | 10.40 | 26.80 |
| 1967-68@ | 35.4 | 10.13 | 25.27 |
| 1968-69@ | .. | .. | .. |
| 1969-70@ | 33.5 | 9.24 | 24.26 |
| 1970-71@ | 31.9 | 9.15 | 22.75 |

Source.—FACT Book on Population—Demographic Research Centre, Bureau of Economics and Statistics, Trivandrum.

* Census data.

@ Sample Registration data.

TABLE II
Dependency load to Kerala

| | <i>Kerala</i> | | <i>India</i> |
|-------|---------------|-------------|--------------|
| | <i>1971</i> | <i>1961</i> | |
| | (1) | (2) | (3) |
| 0-14 | 40.26 | 42.63 | 42.02 |
| 15-59 | 53.51 | 51.52 | 51.99 |
| 60+ | 6.23 | 5.85 | 5.99 |
| Total | 100.00 | 100.00 | 100.00 |

Source.—Economic Review, Kerala 1973.

TABLE III

Number of sterilisation operations and total number of births averted by sterilisations and other methods

| <i>Year</i> | <i>No. of sterilisation</i> | <i>No. of births averted by sterilisation only</i> | <i>Births averted by other methods (including non-programme methods also)</i> | <i>Total number of births averted in each year</i> |
|-------------|-----------------------------|--|---|--|
| (1) | (2) | (3) | (4) | (5) |
| 1957-58 | 1469 | 13 | 2 | 15 |
| 1958-59 | 3962 | 326 | 41 | 367 |
| 1959-60 | 6034 | 1228 | 154 | 1382 |
| 1960-61 | 5403 | 2655 | 357 | 3012 |
| 1961-62 | 6663 | 4037 | 505 | 4542 |
| 1962-63 | 8630 | 5526 | 691 | 6217 |
| 1963-64 | 15395 | 7435 | 929 | 8364 |
| 1964-65 | 27878 | 10750 | 1344 | 12094 |
| 1965-66 | 39728 | 16832 | 5611 | 22443 |
| 1966-67 | 40274 | 25721 | 8574 | 34295 |
| 1967-68 | 65155 | 35212 | 11737 | 46949 |
| 1968-69 | 73840 | 48846 | 16282 | 65128 |
| 1969-70 | 60546 | 64937 | 21646 | 86583 |
| 1970-71 | 68017 | 77999 | 26000 | 103999 |
| 1971-72 | 151111 | 91092 | 30364 | 121456 |
| 1972-73 | 86688 | 118869 | 39623 | 158492 |
| 1973-74 | 45713 | 137665 | 45888 | 183553 |

Targets proposed

| | | | | |
|---------|--------|--------|--------|--------|
| 1974-75 | 100000 | 143709 | 47903 | 191612 |
| 1975-76 | 110000 | 155435 | 51812 | 207247 |
| 1976-77 | 125000 | 172108 | 57369 | 229477 |
| 1977-78 | 140000 | 190916 | 63639 | 254555 |
| 1978-79 | 150000 | 212029 | 70676 | 282705 |
| 1979-80 | 165000 | 234316 | 78105 | 312421 |
| 1980-81 | 180000 | 258169 | 86056 | 344225 |
| 1981-82 | 200000 | 283920 | 94640 | 378560 |
| 1982-83 | 200000 | 312132 | 104044 | 416176 |
| 1983-84 | 200000 | 339342 | 113114 | 452456 |
| 1984-85 | 200000 | 363943 | 121314 | 485257 |
| 1985-86 | 200000 | 385882 | 128627 | 514509 |
| 1986-87 | 200000 | 405290 | 135097 | 540387 |
| 1987-88 | 200000 | 422314 | 140771 | 563085 |
| 1988-89 | 200000 | 437415 | 145805 | 583220 |
| 1989-90 | 200000 | 450793 | 150264 | 601057 |
| 1990-91 | 200000 | 461915 | 153972 | 615897 |

These targets have been fixed in conformity with the targets fixed for the Fifth Five Year Plan period by the Department of Family Planning and for the remaining period it is assumed an increase of 10 per cent in every year upto 1980-81 and thereafter a constant target of two lakhs every year. Number of births averted by sterilisations have been calculated by using the methodology adopted in "A note on the calculation of births averted due to the Family Planning Programme in Kerala" by Dr. R. S. Kurup (Paper No. 78 D.R.C.).

The effect of non-programme methods has been assumed as 1/8th of total births averted and only that effect has been taken into account till 1965-66. Births averted by other methods (including non-programme methods) have been assumed as 1/3rd of the births averted by sterilisation since 1965-66, the year from which the methods like I.U.C.D. and the use of conventional contraceptives have been introduced.

TABLE IV

Estimated population, births and birth rates over the years

| <i>Year</i> | <i>Mid-year population ('0000)</i> | <i>No. of births averted</i> | <i>Birth rate</i> | <i>Death rate</i> |
|-------------|------------------------------------|------------------------------|-------------------|-------------------|
| (1) | (2) | (3) | (4) | (5) |
| 1957-58 | 1557 | 15 | 38.9 | 15.7 |
| 1958-59 | 1593 | 367 | 38.9 | 15.3 |
| 1959-60 | 1631 | 1382 | 38.8 | 14.9 |
| 1960-61 | 1670 | 3012 | 38.7 | 14.5 |
| 1961-62 | 1710 | 4542 | 38.6 | 14.1 |
| 1962-63 | 1752 | 6217 | 38.5 | 13.7 |
| 1963-64 | 1796 | 8364 | 38.4 | 13.3 |
| 1964-65 | 1841 | 12094 | 38.2 | 12.9 |
| 1965-66 | 1888 | 22443 | 37.7 | 12.5 |
| 1966-67 | 1936 | 34295 | 37.1 | 12.1 |
| 1967-68 | 1984 | 46949 | 36.5 | 11.7 |
| 1968-69 | 2033 | 65128 | 35.7 | 11.3 |
| 1969-70 | 2083 | 86583 | 34.7 | 10.9 |
| 1970-71 | 2133 | 103999 | 34.0 | 10.5 |
| 1971-72 | 2183 | 121456 | 33.3 | 10.1 |
| 1972-73 | 2234 | 158492 | 31.8 | 9.7 |
| 1973-74 | 2283 | 183553 | 30.9 | 9.7 |
| 1974-75 | 2331 | 191612 | 30.7 | 9.7 |
| 1975-76 | 2380 | 207247 | 30.2 | 9.7 |

TABLE IV—(cont.)

| <i>Year</i> | <i>Mid-year population (^{'0000})</i> | <i>No. of births averted</i> | <i>Birth rate</i> | <i>Death rate</i> |
|-------------|---|----------------------------------|-------------------|-------------------|
| (1) | (2) | (3) | (4) | (5) |
| 1976-77 | 2429 | 229477 | 29.5 | 9.7 |
| 1977-78 | 2477 | 254555 | 28.6 | 9.7 |
| 1978-79 | 2524 | 282705 | 27.7 | 9.7 |
| 1979-80 | 2569 | 312421 | 26.7 | 9.7 |
| 1980-81 | 2613 | 344225 | 25.7 | 9.7 |
| 1981-82 | 2655 | 378560 | 24.6 | 9.7 |
| 1982-83 | 2695 | 416176 | 23.5 | 9.7 |
| 1983-84 | 2732 | 452456 | 22.3 | 9.7 |
| 1984-85 | 2767 | 485257 | 21.4 | 9.7 |
| 1985-86 | 2799 | 514509 | 20.5 | 9.7 |
| 1986-87 | 2829 | 540387 | 19.8 | 9.7 |
| 1987-88 | 2858 | 563085 | 19.2 | 9.7 |
| 1988-89 | 2885 | 583220 | 18.7 | 9.7 |
| 1989-90 | 2911 | 601057 | 18.3 | 9.7 |
| 1990-91 | 2936 | 615887 | 17.9 | 9.7 |

Note.—The population in mid 1957-58 is estimated from the census figures. The birth rate of 38.9 and the death rate of 16.1 in 1951-60 as estimated from census data have been used as the base assuming a fall of 0.4 point each year upto 1972-73 and constant thereafter.

The methodology, adopted in the paper "A note on the calculation of births averted due to the Family Planning Programme in Kerala" by Dr. R. S. Kurup, has been adopted for the construction of this Table.

TABLE V
 Percentage distribution of age groups of projected population of Kerala over the years
 (Population in '0000)

| Age group | 1960-61 | | 1965-66 | | 1970-71 | | 1975-76 | | 1980-81 | | 1985-86 | |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Percentage | Population | Percentage | Population | Percentage | Population | Percentage | Population | Percentage | Population | Percentage | Population |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| If Fertility is declined by 50 per cent (1960-61 to 1985-86) | 43.64 | 729 | 42.72 | 806 | 40.50 | 364 | 37.75 | 899 | 35.10 | 932 | 32.94 | 922 |
| | 53.39 | 891 | 54.07 | 1,021 | 55.91 | 1,192 | 58.38 | 1,389 | 60.56 | 1,608 | 62.68 | 1,754 |
| | 2.97 | 50 | 3.21 | 61 | 3.59 | 77 | 3.87 | 92 | 4.34 | 115 | 4.38 | 123 |
| | 100.00 | 1,670 | 100.00 | 1,888 | 100.00 | 2,133 | 100.00 | 2,380 | 100.00 | 2,655 | 100.00 | 2,799 |
| Total | .. | 1,666 | .. | 1,876 | .. | 2,110 | .. | 2,369 | .. | 2,660 | .. | 2,986 |
| Total population if the population increases at the present rate of growth i.e., 2.3 per cent per annum | .. | 1,666 | .. | 1,876 | .. | 2,110 | .. | 2,369 | .. | 2,660 | .. | 2,986 |

Total population if the population increases at the present rate of growth i.e., 2.3 per cent per annum

TABLE VI
 Percentage distribution of sterilised persons according to educational status

| Educational status | Period | | | | |
|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | 1957-67 percentage | 1967-68 percentage | 1968-69 percentage | 1969-70 percentage | 1970-71 percentage |
| I | 2 | 3 | 4 | 5 | 6 |
| Illiterates | 20.8 | 20.8 | 21.1 | 19.6 | 17.7 |
| Literates below primary | 38.7 | 54.2 | 43.7 | 41.1 | 35.4 |
| Above primary below middle | 25.2 | 16.5 | 23.3 | 26.8 | 26.9 |
| Above middle below matric | 5.9 | 3.3 | 5.0 | 5.3 | 6.9 |
| Matric and above | 5.6 | 4.2 | 4.8 | 6.8 | 7.7 |
| Literacy standards not specified | 4.3 | 1.0 | 2.1 | 0.4 | 5.4 |

(1) A demographic profile of sterilised persons in Kerala 1957-67

(2) A study of sterilisation in Kerala during 1967-68

(3) Sterilisation in Kerala (1968-69)—An appraisal

(4) Highlights of persons sterilised in Kerala 1969-70

(5) Sterilisation in Kerala during 1970-71 (unpublished)

1.2 CHARACTERISTICS OF STERILISED PERSONS IN KERALA 1957-71

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CHARACTERISTICS OF STERILISED PERSONS IN KERALA—1957-1971

1. *Introduction.*—Population control through family planning programme has become a matter of great significance to the economic development of the State and sterilisation has turned out to be its important impact. Hence it is worthwhile to examine the socio-demographic characteristics of persons who have adopted sterilisation for family planning in Kerala State.

2. *Object of the study.*—Number of the studies conducted by the Demographic Research Centre have shed light on the characteristics of sterilised persons since the beginning of the programme in the State in 1957. The present study which focuses on 1970-71 period provides information on the demographic characteristics of persons who have accepted sterilisation over the years 1957-71.

3. *Source of data.*—The study takes into account 60 per cent of the persons sterilised in 1970-71 and depends largely on the data, collected from the records kept at hospitals and other institutions. One major drawback which needs mention is that the hospital records are not maintained with due statistical importance and many valuable items of information are left unrecorded. Further, the investigators who copy down the information from the hospital records very often omit certain items. Nevertheless, the data collected, have proved to be a useful indicator of the various characteristics of persons who have accepted sterilisation operation.

4. *Progress of sterilisation programme.*—The sterilisation programme in the State began with a humble start in 1957 and gathered momentum in 1963-64 and recorded the highest performance in 1968-69 with 73840 sterilisations. But the subsequent two years have witnessed a decline in the total number of sterilisations. Only 68017 sterilisations were conducted in the State during 1970-71 period, out of which 68.5 per cent were vasectomies. In fact, 3.2 persons have adopted sterilisation per thousand population in the State in 1970-71.

4.1. A more or less steady progress in male sterilisations is noticeable till 1968-69 which is followed by a fall in 1969-70. In the case of female sterilisations, a steady upward trend is perceptible since 1964.

4.2. The index of progress in the number of sterilisations with 1966-67 as the base year is given in the table below:

TABLE 1
Index of progress

| <i>Period</i> | <i>No. of sterilisations</i> | <i>Index of progress</i> |
|---------------|------------------------------|--------------------------|
| (1) | (2) | (3) |
| 1966-67 | 40274 | 100 |
| 1967-68 | 65155 | 165 |
| 1968-69 | 73840 | 185 |
| 1969-70 | 60546 | 150 |
| 1970-71 | 68017 | 170 |

5. *Targets and achievements.*—Generally sterilisation targets are fixed by Government of India in consultation with the State Health Services Department. A target of 128922 sterilisation was fixed for the year 1970-71 but only 52.8 per cent of the targets could be achieved during the year. Table below reveals the sterilisation targets and the achievements for the period from 1967-68 to 1970-71.

TABLE 2
Targets and achievements

| <i>Period</i> | <i>Target (No. of sterilisation proposed)</i> | <i>Achievements (No. of sterilisations)</i> | <i>Percentage of target achievements</i> |
|---------------|---|---|--|
| (1) | (2) | (3) | (4) |
| 1967-68 | 79664 | 65155 | 81 |
| 1968-69 | 122544 | 73844 | 60 |
| 1969-70 | 129400 | 59561 | 46 |
| 1970-71 | 128922 | 68017 | 52.8 |

The target fixed for 1970-71 is below that of 1969-70 target. It appears that the sterilisation targets compared to achievements are unrealistic.

6. Demographic characteristic (like age, sex, education, religion, income, occupation, number of children born and alive, etc.), are elaborated in the following paragraphs:—

6.1. *Religion.*—The population of Kerala is composed of three major religious groups—Hindus, Christians and Muslims. During 1967-71 decade, there is a fall of 1.59 per cent of the Hindu population and

an increase of 0.05 per cent and 1.5 per cent in the population of Christians and Muslims respectively.

6.1.1. Religious composition of the sterilised persons in 1961 shows that 74.6 per cent are Hindus and 20.2 per cent of them are Christians and 5.2 per cent of them are Muslims. In 1970-71 period 72.35 per cent are Hindus, 19.27 per cent are Christians and 8.38 per cent are Muslims.

6.1.2. A point of importance to be noted here is that the Hindu population in 1961-71 decade has fallen by 1.59 per cent but their proportion among sterilised has fallen by 2.3 per cent for the same period. But in the case of Christians in spite of a very nominal increase of 0.05 per cent in the general population, their proportion among the sterilised has declined by 1 per cent indicating a slowing down in their acceptance. Muslims have recorded an increase of 1.5 per cent in the general population while their proportion among the sterilised also has recorded an increase of 3.18 per cent (Table 4).

TABLE 3
Decennial variation—Religion-wise—1961-71

| Religion | Proportion of population according to censuses | | | Proportion of sterilised persons | | |
|---------------|--|-----------------|--------------------------------|----------------------------------|-----------------|--------------------------------|
| | 1961 percentage | 1971 percentage | Decennial variation percentage | 1961 percentage | 1971 percentage | Decennial variation percentage |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Hindus .. | 61 | 59.41 | -1.6 | 74.6 | 72.35 | -2.3 |
| Christians .. | 21 | 21.05 | +0.05 | 20.2 | 19.27 | -1.0 |
| Muslims .. | 18 | 19.54 | +1.5 | 5.2 | 8.38 | +3.18 |
| Total .. | 100 | 100 | | 100 | 100 | |

From the very outset, the Hindus have over represented and Christians and Muslims under represented in the sterilisations conducted in the State. Religious-wise distribution of sterilised persons from

1957-67 to 1970-71 is given in Table 5 appended. As a matter of fact the Hindus are culturalogically favourable in accepting sterilisation. The acceptance of the Muslims, who were hesitant in the early periods of sterilisation programme seems to be slowly increasing.

6.2. *Education.*—Literacy promotes, knowledge of family planning which influences the attitudes and acceptors of family planning and thus determines family size.

6.2.1. During 1970-71 period 19 per cent of the Hindus, 9.6 of the Christians and 32 per cent of Muslims who have adopted sterilisation are illiterates.

6.2.2. According to 1971 census 60 per cent of the people in Kerala are literates. Literates of all religious groups have favoured sterilisation more than illiterates. A slight increasing trend is seen in the proportion of sterilised persons with matric and above standard in recent years (Table VI appended). 62 per cent of the Hindus, 78 per cent of the Christians and 53 per cent of Muslims are of below middle school standard during 1970-71 period (Table VII appended).

6.3. *Age structure.*—The age composition of the sterilised persons reveals the extent of the reproductive span, saved from child bearing on account of sterilisation operations. The number of births averted by sterilisation depends largely on the age of persons who accept it. The younger the persons sterilised the greater the possible number of birth that would be averted.

6.3.1. The age composition of the males sterilised during 1957-71 period reveals that in the early periods of the sterilisation programme, it was the middle aged males who accepted it. The proportion of the sterilised males below 30 years of age has increased from 8 per cent in 1957-67 to 18 per cent in 1970-71.

6.3.2. A notable characteristics in this connection is that half the number of persons sterilised belongs to 30-39 age group. This is a uniform trend seen throughout the period from 1957 to 1971 (Table 8 appended).

6.3.3. The proportion of females sterilised in the ages 20-24 shows a rising trend from 9.7 per cent in 1957-67 period to 17.5 per cent in 1970-71. Besides, the proportion of females in the age group 40-44 has fallen from 4 per cent in 1957-67 to 2.4 per cent in 1970-71 (Table 8 appended).

6.3.4. 51.3 per cent of sterilised males are in 30-39 age group and 63 per cent of females are 25-34 age group during 1970-71 (Table 9 appended). More than 1/4 of the males sterilised belong to 35-39 age group while 38 per cent of the females sterilised are in the age group 25-29.

6.4. *Occupation.*—Nearly 43 per cent of the sterilised persons are unskilled workers. Agricultural labourers and cultivators form 19 per cent. Occupational distribution of sterilised persons is given in Table 10 (appended). This is not readily comparable with the census classification given in Table 11 appended as they are not identical. However agricultural labours in the census classification Table 11 (appended) are comparable with the corresponding item in Table 10 (appended). In fact, the agricultural labourers have been over represented. The fact that more than 60 per cent of person who adopted sterilisation in 1970-71 period belong to workers and labourers category is a prominent factor to be noted.

6.5. *Income.*—Those people with a monthly income of Rs. 100 or more are expected to pay for the medical service they receive from the hospitals. So there is a tendency to project a very low income by the patients when they come to hospitals to escape payment of medical charges. 77 per cent of the persons sterilised have reported a monthly income of less than Rs. 100 and only 5 per cent have reported a monthly income of more than Rs. 200 during 1970-71 period. However it may be seen that a good majority of them is of very low monthly income (Table 12 appended).

6.6. Composition of sterilised persons according to the number of children born and living at the time of sterilisation.

The mean age at sterilisation is of 36.56 for males and 28.67 for females in 1970-71 period. The age at sterilisation of males and females for the previous two years is given in the Table.

TABLE 4
Age at sterilisation 1968-71

| Periods | Mean age at sterilisation | |
|---------|---------------------------|--------|
| | Male | Female |
| 1968-69 | 37.6 | 30.5 |
| 1969-70 | 36.0 | 29.0 |
| 1970-71 | 36.5 | 28.67 |

The age at sterilisation of females shows a falling trend. But for males it is around 36 years.

6.6.1. The average number of children born to sterilised males is 3.82 and to females it is 4.22 during 1970-71 period. An average of 3.68 and 4 children are alive to males and females respectively at the time of sterilisation.

6.6.2. Table 14 appended reveals that 50 per cent of the males and 39 per cent of females who accept sterilisation have 3 children born at the time of sterilisation. In general 49.4 per cent of the sterilised persons have 3 children alive at the time of sterilisation.

6.6.3. A religion-wise analysis of the acceptors of sterilisation brings to light that 60 per cent of the Muslims, 53 per cent of Christians and 48 per cent of Hindus acceptors have more than 3 children alive at the time of sterilisation. [Table 14(a) appended.]

6.7. *Trend in family size.*—The proportion of sterilised persons who have more than 3 children living at the time of sterilisation, shows a declining trend. It declines from 74.5 per cent in 1956-51 to 50.6 per cent in 1970-71 (Table 15 appended). The number of children a person desires to have, is more or less reflected by the number of children a person has at the time of sterilisation. During 1956-51 period, the family size of those who accepted sterilisation is large. Only $\frac{1}{4}$ of the persons sterilised in 1956-61 period has 3 or less than three children alive. But in 1970-71, period nearly $\frac{1}{2}$ the number of persons who accepted sterilisation has 3 or less than 3 children alive at time of sterilisation in 1956-61 period but in 1970-71 this proportion has increased four fold [Table 14 (b) appended]. The idea of permanent family limitation crops up only after the couples have 2 living children.

7. *Preference for male children.*—6.52 of the males sterilised have no male children living and 10.25 per cent have no female children alive at the time of sterilisation (Table 16 appended). In the case of females 6.36 per cent have no male children alive and 8.12 per cent have no female children living at the time of sterilisation. A preference for male is more prominent than for female children.

8. *Impact of sterilisation on future births.*—Government of India have estimated that on an average, 1.7 births will be saved per sterilisation in the course of 10 years. On the basis of this estimate 115,600 births will be prevented during the course of next 10 years by the sterilisations done in 1970-71 period.

9. *Summary and conclusion.*—The present study on sterilised persons gives a view of the various characteristics of persons who accepted sterilisation voluntarily for family planning in 1970-71 period. Many of the major points have been amplified by making a comparison with earlier periods.

9.1. There is a slight increase in the number of sterilisations during 1970-71. 68.5 per cent of them in 1970-71 are males.

9.2. Average age at sterilisation is 36.5 years for males and 28.7 years for females. The age at salpinxectomy has fallen from 30.5 years in 1968-69 to 28.7 years in 1970-71.

9.3. 1961-71 decade variation in the religious composition of the people in the general population is that Hindus have declined their strength by 1.5 per cent in the general population while Christians and Muslims have increased their number by 0.05 per cent and 1.5 per cent respectively. The analogy in the composition of the sterilised persons during the decade brings to light that the Muslims have shown substantial increase in their proportion by 3.18 per cent while the proportions of Hindus and Christians have registered a fall of 2.3 per cent and

1 per cent respectively. During 1970-71 period, 72.35 percent of the sterilised persons are Hindus and 19.27 percent are Christians and 8.38 are Muslims. While Hindus are over-represented, Christians and Muslims are under-represented in the sterilisations conducted from 1957-71.

9.4. Nineteen per cent of the Hindus, 9.6 per cent of Christians and 32 per cent of Muslims sterilised during 1970-71 are illiterates. Literates are more favourable to sterilisation than illiterates. But the literacy of the sterilised persons is limited to the middle school standard.

9.5. The proportion of the sterilised males below 30 years increased from 8 per cent in 1957-67 to 18 per cent in 1970-71. Further 50 per cent of the sterilised persons belong to 30-39 age groups

9.6. The proportion of females sterilised in 20-24 age-group grows up from 9.2 per cent in 1957-67 to 17.5 per cent, in 1970-71. At the same time their proportion in the 40-44 age group has fallen from 4 per cent in 1957-67 to 2.4 per cent in 1970-71.

9.7. 51.3 per cent of the males sterilised are in the age group 30-39 and 63 per cent of females are in the age group 25 to 34 during 1970-71. In fact more than 1/4 of the sterilised males belongs to 35-39 age group while 38 per cent of the females are in the ages 25-29.

TABLE 5
Percentage distribution of sterilised persons according to educational status 1967-71

| Serial number | Educational status | Periods | | | | |
|---------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| | | 1957-67 (1) | 1967-68 (2) | 1968-69 (3) | 1969-70 (4) | 1970-71 (5) |
| 1 | Illiterates .. | 20.8 | 20.8 | 21.1 | 19.6 | 17.7 |
| 2 | Literates below Primary .. | 38.7 | 54.2 | 43.7 | 41.1 | 35.4 |
| 3 | Above primary below middle .. | 25.2 | 16.5 | 23.3 | 26.8 | 26.9 |
| 4 | Above middle below matric .. | 5.9 | 3.3 | 5.0 | 5.4 | 6.9 |
| 5 | Matric and above .. | 5.6 | 4.2 | 4.8 | 6.8 | 7.7 |
| 6 | Literacy standards not specified .. | 4.3 | 1.0 | 2.1 | 0.4 | 5.4 |

- (1) A Demographic profile of sterilised persons in Kerala 1957-67
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- (5) Sterilisation in Kerala during 1970-71 (unpublished)

TABLE 6
Distribution of sterilised persons according to religion and educational status—1970-71

| Educational status | Religion | | | | | | | | | | |
|----------------------------|----------|-------------|-------|-------------|------|-------------|------|-------------|-------|-------------|--|
| | Hindu | | | Christian | | Muslim | | N.R. | | Total | |
| | No. | Per-centage | No. | Per-centage | No. | Per-centage | No. | Per-centage | No. | Per-centage | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| Illiterates | 3150 | 18.90 | 427 | 9.62 | 617 | 31.97 | 54 | 6.14 | 4248 | 17.76 | |
| Literates below primary .. | 5746 | 34.48 | 1755 | 39.53 | 637 | 33.01 | 331 | 37.61 | 8469 | 35.41 | |
| Above Primary below middle | 4531 | 27.18 | 1258 | 28.33 | 381 | 19.74 | 263 | 29.89 | 6433 | 26.90 | |
| Above middle below matric | 1123 | 6.74 | 383 | 8.63 | 74 | 3.83 | 78 | 8.86 | 1658 | 6.93 | |
| Matric and above | 1312 | 7.87 | 393 | 8.85 | 72 | 3.73 | 70 | 7.95 | 1847 | 7.72 | |
| Literacy not specified | 805 | 4.83 | 224 | 5.04 | 149 | 7.72 | 84 | 9.55 | 1262 | 5.28 | |
| Not recorded | 8965 | | 1871 | | 882 | | 5733 | | 17451 | | |
| Total | 25632 | 100.00 | 6311 | 100.00 | 2812 | 100.00 | 6613 | 100.00 | 41368 | 100.00 | |
| Percent | 73.75 | .. | 18.16 | .. | 8.09 | .. | .. | .. | 100 | .. | |

TABLE 7
 Percentage distribution of sterilised persons according to age at the time of sterilisation for males
 and females for the periods -1957-71

| Age group | Males | | | | | | Females | | | | |
|-----------|---------|---------|---------|---------|---------|-------|---------|---------|---------|---------|---------|
| | 1957-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | | 1957-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| 15-19 | 0.4 | 0.6 | 0.7 | 1.0 | 0.09 | 0.1 | 0.3 | 0.2 | 0.3 | 0.18 | |
| 20-24 | 7.7 | 9.3 | 10.4 | 12.2 | 2.11 | 9.7 | 12.2 | 13.8 | 15.2 | 17.55 | |
| 25-29 | 23.5 | 21.6 | 21.8 | 23.1 | 16.08 | 34.7 | 37.1 | 35.9 | 38.4 | 38.30 | |
| 30-34 | 30.7 | 28.6 | 27.6 | 28.1 | 24.28 | 32.1 | 29.9 | 29.7 | 28.1 | 26.76 | |
| 35-39 | 37.7 | 21.2 | 20.6 | 18.5 | 27.10 | 19.1 | 16.8 | 17.2 | 15.2 | 14.18 | |
| 40-44 | .. | 18.7 | 18.9 | 17.1 | 16.45 | 4.3 | 3.2 | 2.7 | 2.4 | 2.42 | |
| 45 | .. | .. | .. | .. | 13.89 | .. | 0.5 | 0.5 | 0.4 | 0.61 | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.00 | 100.0 | 100.0 | 100.0 | 100.0 | 100.00 | |

TABLE 8
Distribution of sterilised persons according to age
and sex—1970-71

| Age group | Male | | Female | | Total | |
|--------------|-------|-----------------|--------|-----------------|-------|-----------------|
| | No. | Percent- age | No. | Percent- age | No. | Percent- age |
| 15-19 | 21 | 0·09 | 30 | 0·17 | 51 | 0·13 |
| 20-24 | 477 | 2·11 | 2936 | 17·55 | 3413 | 8·67 |
| 25-29 | 3641 | 16·08 | 6406 | 38·30 | 10047 | 25·52 |
| 30-34 | 5500 | 24·28 | 4477 | 26·77 | 9977 | 25·34 |
| 35-39 | 6137 | 27·10 | 2372 | 14·18 | 8509 | 21·01 |
| 40-44 | 3727 | 16·45 | 404 | 2·42 | 4131 | 10·49 |
| 45 | 3145 | 13·89 | 102 | 0·61 | 3247 | 8·24 |
| Not Recorded | 1312 | .. | 681 | .. | 1993 | .. |
| Total | 23960 | 100·00 | 17408 | 100·00 | 41368 | 100·00 |

TABLE 9
Distribution of the sterilised persons according to occupation

| Occupation | Male | Percent- age | Female | percent- age | Total | Percent- age |
|---------------------------------|-------|-----------------|--------|-----------------|------------------|-----------------|
| Agricultural Lab- ourers .. | 2041 | 12·80 | 382 | 6·04 | 2423 (5·86) | 10·88 |
| Skilled workers .. | 2131 | 13·37 | 226 | 3·57 | 2357 (5·69) | 10·58 |
| Unskilled workers .. | 7553 | 47·37 | 2119 | 38·50 | 9672 (23·38) | 43·43 |
| Cultivators and Farmers .. | 1504 | 9·43 | 306 | 4·84 | 1810 (4·38) | 8·13 |
| Professional workers.. | 544 | 3·41 | 172 | 2·72 | 716 (1·73) | 3·22 |
| Traders and Busin- essmen .. | 887 | 5·56 | 223 | 3·53 | 1110 (2·68) | 4·99 |
| Clerical workers .. | 150 | 0·94 | 69 | 1·09 | 219 (0·53) | 0·98 |
| Others .. | 1048 | 6·57 | 2135 | 33·75 | 3183 (7·69) | 14·29 |
| No occupation .. | 87 | 0·55 | 693 | 10·96 | 780 (1·89) | 3·50 |
| Not Recorded .. | 8015 | .. | 11083 | .. | 19098 (46·17) | .. |
| Total .. | 23960 | 100·00 | 17408 | 100·00 | 41368 | 100·00 |

TABLE 10

| Percentage distribution of workers and non-workers (as per 1971 Census) | | Percentage distribution of sterilised persons according to industrial category of workers (1970-71) | |
|---|--------|---|-------|
| 1. Cultivators | 5.2 | Cultivators and farmers | 8.13 |
| 2. Agricultural labourers | 8.9 | Agricultural labourers | 10.98 |
| 3. Livestock, forestry, fishing, hunting and plantation, etc. | 2.0 | Skilled workers | 10.58 |
| | | Unskilled workers | 43.23 |
| 4. Mining and quarrying | 0.1 | Professional workers | 3.22 |
| 5. Manufacturing, processing: | | Traders and businessmen | 4.99 |
| Servicing and repairs: | | Clerical workers | 0.98 |
| (a) Household industry | 1.3 | Others | 14.29 |
| (b) Others than household industry | 3.3 | No occupation | 3.50 |
| 6. Construction | 0.5 | | |
| 7. Trade and commerce | 2.7 | | |
| 8. Transport, storage and communication | 1.1 | | |
| 9. Other services | 4.0 | | |
| 10. Non-workers | 70.9 | | |
| Total | 100.00 | | |

TABLE 11
Distribution of sterilised person according to
monthly Income—1970-71

| Monthly income | Male | Percentage | Female | Percentage | Total | Percentage |
|-------------------|-------|------------|--------|------------|------------------|------------|
| Below Rs. 50 | 2149 | 12.26 | 1184 | 12.51 | 3333 (8.06) | 12.35 |
| Rs. 50-99 | 11054 | 63.06 | 6423 | 67.85 | 17477 (42.25) | 64.74 |
| Rs 100-149 | 2811 | 16.04 | 865 | 9.14 | 3676 (8.89) | 13.62 |
| Rs. 150-199 | 762 | 4.35 | 379 | 4.00 | 1141 (2.76) | 4.22 |
| Rs. 200 and above | 758 | 4.29 | 616 | 6.50 | 1369 (3.30) | 5.07 |
| Not Recorded | 6431 | .. | 7941 | .. | 14372 (34.74) | .. |
| Total | 23960 | 100 | 17408 | 100 | 41368 | 100 |

TABLE 12
Percentage distribution of persons sterilised according
to number of children born—1970-71

| No. of children born | Male | | Female | | Total | |
|----------------------|-------|-------------|--------|--------------|-------|--------------|
| | No. | percent age | No. | Percent- age | No. | Percent- age |
| 1 | 195 | 1.41 | 46 | 0.70 | 241 | 1.18 |
| 2 | 3120 | 22.53 | 698 | 10.59 | 3818 | 18.68 |
| 3 | 3746 | 27.05 | 1819 | 27.60 | 5565 | 27.23 |
| 4 | 2765 | 19.96 | 1642 | 24.92 | 4407 | 21.56 |
| 5 | 1803 | 13.02 | 1104 | 16.75 | 2907 | 14.22 |
| 6 | 1160 | 8.38 | 637 | 9.67 | 1797 | 8.79 |
| 7 | 617 | 4.46 | 345 | 5.24 | 962 | 4.71 |
| 8 | 254 | 1.83 | 165 | 2.50 | 419 | 2.05 |
| 9 | 118 | 0.85 | 76 | 1.15 | 194 | 0.95 |
| 10 | 53 | 0.38 | 33 | 0.53 | 86 | 0.42 |
| 10 and above | 18 | 0.13 | 25 | 0.38 | 43 | 0.21 |
| Total | 13849 | 100.00 | 6590 | 100.00 | 20439 | 100.00 |

TABLE 13 (a)

Percentage distribution of sterilised persons according to Religion and number of children living—1970-71

| No. of children living | Hindus | Christians | Muslims | N.R. | Total |
|------------------------|--------|------------|---------|--------|--------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 1.18 | 1.30 | 1.01 | 1.83 | 1.25 |
| 2 | 20.47 | 17.23 | 16.57 | 18.71 | 19.50 |
| 3 | 30.17 | 25.48 | 22.67 | 28.25 | 28.68 |
| | 51.82 | 47.01 | 40.25 | .. | 49.43 |
| 4 | 22.12 | 22.52 | 23.34 | 22.17 | 22.28 |
| 5 | 13.41 | 15.30 | 16.48 | 15.07 | 14.09 |
| 6 | 7.12 | 9.22 | 9.59 | 8.60 | 7.78 |
| 7 | 3.48 | 5.16 | 5.93 | 3.37 | 3.92 |
| 8 | 1.32 | 2.34 | 2.65 | 1.27 | 1.58 |
| 9 | 0.51 | 0.94 | 1.05 | 0.43 | 0.61 |
| 10 | 0.16 | 0.30 | 0.46 | 0.20 | 0.21 |
| 10 and above | 0.06 | 0.21 | 0.25 | 0.10 | 0.10 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

TABLE 13 (b)
Percentage distribution of sterilised persons according to number of children living (1956-71)

| Number of children living | 1956-61 | | 1961-62 | | 1962-63 | | 1963-64 | | 1964-65 | | 1965-66 | | 1966-67 | | 1967-68 | | 1968-69 | | 1969-70 | | 1970-71 | |
|---------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--|---------|--|---------|--|---------|--|---------|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 0.8 | 0.8 | 0.9 | 0.5 | 0.4 | 0.5 | 0.7 | 0.9 | 0.89 | 1.00 | 0.86 | 1.25 | | | | | | | | | | |
| 3 | 4.7 | 4.7 | 5.3 | 6.9 | 6.6 | 6.3 | 8.7 | 12.1 | 14.93 | 17.7 | 17.85 | 19.50 | | | | | | | | | | |
| | 19.9 | 19.9 | 20.6 | 22.1 | 25.4 | 28.0 | 27.4 | 26.1 | 26.88 | 26.7 | 27.80 | 28.68 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | 25.4 | 25.4 | 25.9 | 29.5 | 32.4 | 34.8 | 36.8 | 39.1 | 42.70 | 45.4 | 46.51 | 49.43 | | | | | | | | | | |
| 4 | 26.4 | 26.4 | 24.5 | 26.0 | 25.8 | 25.5 | 24.9 | 23.5 | 22.71 | 22.3 | 22.34 | 22.28 | | | | | | | | | | |
| 5 | 21.8 | 21.8 | 22.1 | 19.7 | 19.9 | 18.8 | 18.3 | 17.5 | 16.26 | 15.4 | 15.50 | 14.09 | | | | | | | | | | |
| 6 | 13.7 | 13.7 | 14.8 | 12.4 | 11.8 | 11.5 | 11.2 | 10.8 | 10.05 | 9.4 | 8.51 | 7.78 | | | | | | | | | | |
| 7 | 7.4 | 7.4 | 6.9 | 6.7 | 6.2 | 5.7 | 5.0 | 5.4 | 4.97 | 4.6 | 4.23 | 3.92 | | | | | | | | | | |
| 8 | 3.2 | 3.2 | 3.2 | 3.1 | 2.6 | 2.3 | 2.6 | 2.5 | 2.19 | 1.9 | 1.89 | 1.58 | | | | | | | | | | |
| 9 | 1.3 | 1.3 | 1.1 | 1.1 | 0.9 | 0.9 | 0.9 | 0.8 | 0.75 | 0.7 | 0.71 | 0.61 | | | | | | | | | | |
| 10 | 0.8 | 0.8 | 0.6 | 0.6 | 0.4 | 0.5 | 0.3 | 0.4 | 0.25 | 0.2 | 0.20 | 0.21 | | | | | | | | | | |
| 10 and above | .. | .. | .. | .. | .. | .. | .. | .. | 0.12 | 0.1 | 0.11 | 0.10 | | | | | | | | | | |
| | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | | | | | | | | | | |

TABLE 14

Trend in family size of the sterilised persons

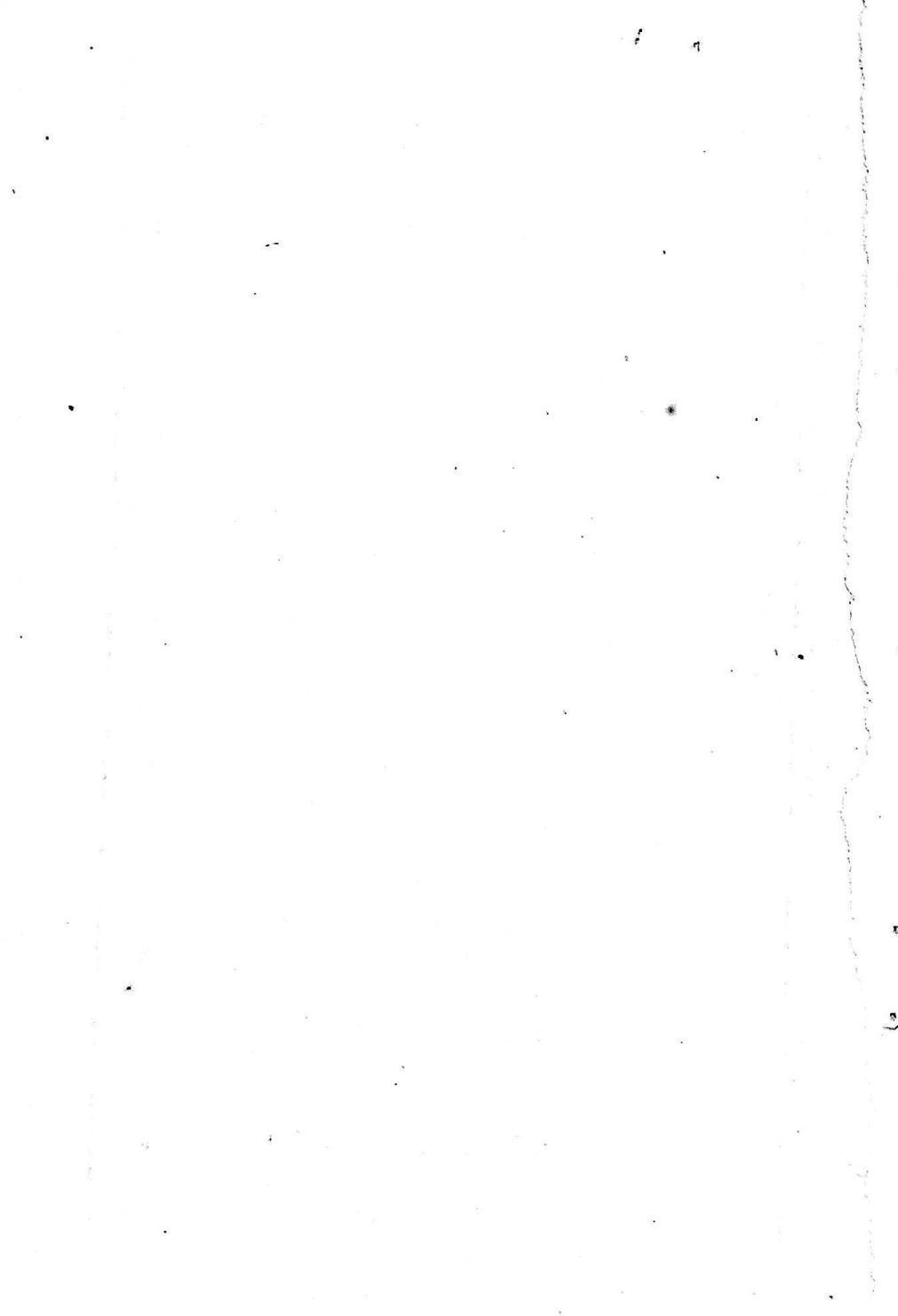
| <i>Sl. No.</i> | <i>Periods</i> | <i>Percentage of sterilised person having more than three children living at the time of sterilisation</i> |
|----------------|----------------|--|
| (1) | (2) | (3) |
| 1. | 1956-61 | 74·5 |
| 2. | 1961-62 | 73·0 |
| 3. | 1962-63 | 60·5 |
| 4. | 1963-64 | 67·2 |
| 5. | 1964-65 | 65·2 |
| 6. | 1965-66 | 63·0 |
| 7. | 1966-67 | 61·0 |
| 8. | 1967-68 | 57·3 |
| 9. | 1968-69 | 54·6 |
| 10. | 1969-70 | 53·5 |
| 11. | 1970-71 | 50·6 |

TABLE 15
Demographic particulars of sterilised males according to number of children living in each sex (1970-71)

| No. of male children living | No. of female children living | | | | | | | | | | Total | |
|-----------------------------|-------------------------------|-----------------|-----------------|-----------------|----------------|---------------|---------------|--------------|---------------|-------------------|-------|----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | |
| 0 | .. | 115 | 538 | 351 | 170 | 62 | 19 | 6 | .. | 1261 (6.52) | .. | .. |
| 1 | 148 | 3181 | 1958 | 797 | 337 | 123 | 35 | 12 | .. | 6591 (34.08) | .. | .. |
| 2 | 957 | 2465 | 1851 | 777 | 325 | 124 | 32 | 9 | .. | 6540 (33.81) | .. | .. |
| 3 | 566 | 893 | 880 | 493 | 194 | 53 | 19 | 9 | .. | 3107 (16.06) | .. | .. |
| 4 | 210 | 348 | 354 | 234 | 99 | 25 | 7 | 2 | .. | 1279 (6.61) | .. | .. |
| 5 | 63 | 124 | 109 | 50 | 41 | 9 | 1 | 1 | .. | 398 (2.06) | .. | .. |
| 6 | 31 | 42 | 25 | 17 | 5 | 1 | .. | .. | .. | 121 (0.63) | .. | .. |
| 6 and above | 8 | 11 | 12 | 10 | 2 | .. | .. | 1 | .. | 44 (0.23) | .. | .. |
| N.R. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4619 | .. | .. |
| Total | 1983 (10.25) | 7179 (37.12) | 5727 (29.62) | 2729 (14.11) | 1173 (6.06) | 397 (2.05) | 113 (0.58) | 40 (0.21) | 4619 (100) | 19341 (100.00) | | |

TABLE 16
Demographic particulars of sterilised females according to number of children living in each sex (1970-71)

| No. of male children living | No. of female children living | | | | | | | | | | Total |
|-----------------------------|-------------------------------|-----------------|-----------------|-----------------|---------------|---------------|--------------|--------------|------|-------------------|-------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 6 and above | N.R. | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| 0 | .. | 46 | 194 | 240 | 129 | 44 | 18 | 6 | .. | 677 (6.36) | |
| 1 | 67 | 706 | 1153 | 553 | 257 | 66 | 28 | 7 | .. | 2837 (26.66) | |
| 2 | 232 | 1477 | 1243 | 527 | 175 | 69 | 21 | 7 | .. | 3751 (35.25) | |
| 3 | 343 | 634 | 657 | 324 | 115 | 44 | 10 | 4 | .. | 2131 (20.03) | |
| 4 | 158 | 275 | 195 | 164 | 61 | 14 | 5 | 1 | .. | 873 (8.20) | |
| 5 | 44 | 94 | 51 | 43 | 19 | 12 | 1 | 2 | .. | 266 (2.50) | |
| 6 | 15 | 19 | 24 | 15 | 2 | 2 | 1 | .. | .. | 78 (0.73) | |
| and above | 5 | 7 | 6 | 6 | 3 | 1 | 1 | .. | .. | 29 (0.27) | |
| N.R. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total | 864 (8.12) | 3258 (30.61) | 3523 (33.11) | 1872 (17.59) | 761 (7.15) | 252 (2.37) | 85 (0.80) | 27 (0.25) | .. | 10642 (100.00) | |



A STUDY OF STERILISED PERSONS IN KERALA

I. Objectives of the study

This paper attempts to study the characteristics of sterilised persons in the State and in the districts in respect of their age, religion, educational status, income and the number of living children at the time of operation. Inter district variations in these characteristics have also been analysed. An attempt is made to indicate the demographic effect of sterilisation operation done so far.

1. *Source of the Data and Limitations.*—The data collected by the hospital authorities are taken for analysis. There are nearly 473 Medical Institutions in the State providing facilities for sterilisations. These include Government Hospitals, Primary Health Centres and Private Hospitals. The data, in respect of each person who accept sterilisation, are recorded in the registers maintained by the Institutions concerned. The recorded data are copied by the statistical staff attached to the District Statistical Office. The records of the Primary Institutions show that all items of information in respect of each acceptor are often not fully or properly recorded. The non-coverage of the items of information varies.

The extent of non-coverage may be seen from the following table

| Year | No. of sterilisations | No. on which data have been collected |
|---------|-----------------------|---------------------------------------|
| (1) | (2) | (3) |
| 1971-72 | 151,111 | 15,587 |
| 1972-73 | 86,697 | 18,192 |
| 1973-74 | 45,713 | 26,426 |

Characteristics of sterilised persons

2. *Age Composition.*—The ultimate aim of this programme is to reduce the growth rate by effectively controlling the birth rate. The age at which a person undergoes sterilisation is an important factor to assess the success of the programme. If persons of younger age and low parity adopt permanent family planning methods, more births could be averted. Hence the importance of the age distribution of the sterilised persons. The age distribution per cent of sterilised persons during the period 1971-72 to 1973-74 as well as for the previous years is given in Appendix Table (1). The table reveals that the percentage of younger people accepting this method is steadily increasing over these years. Among the sterilised females the percentage of those who had undergone sterilisation before the age 30 has increased from 44.5 per cent

in 1957-67 to 66.7 in 1973-74. More than 66 per cent of the females who had undergone sterilisation had saved a period of 15 to 19 years of their reproductive period by accepting this method. Among the vasectomised persons the percentage of those below 35 has increased from 31.6 in 1957-67 to 48.0 on 1973-74. The table given below shows the increasing trend of younger people accepting this method since the year 1957.

TABLE 1

Percentage distribution of vasectomised persons below 35 years and tubectomised persons below 30 years

| <i>Year</i> | <i>Vasectomy</i> | <i>Tubectomy</i> |
|-------------|------------------|------------------|
| (1) | (2) | (3) |
| 1957-67 | 31.6 | 44.5 |
| 1967-68 | 31.5 | 49.6 |
| 1968-69 | 32.9 | 50.0 |
| 1969-70 | 36.3 | 53.9 |
| 1970-71 | 42.7 | 56.1 |
| 1971-72 | 44.3 | 56.3 |
| 1972-73 | 49.2 | 60.6 |
| 1973-74 | 48.8 | 66.7 |

3. *Median age of sterilised persons.*—The median age of sterilised persons has shown a declining trend during these years. The median age of vasectomised persons is found to be 35.2 years during the year 1973-74 while it was 38.1 years in 1957-67. The median age of tubectomised persons has declined by more than 5 years from the year 1957-67 to 1973-74.

The median age of sterilised person (male and female) given below shows a steady declining trend which is a welcome sign.

TABLE 2

Median age of sterilised persons

| <i>Year</i> | <i>Median Age</i> | |
|-------------|-------------------|---------------|
| | <i>Male</i> | <i>Female</i> |
| (1) | (2) | (3) |
| 1957-68 | 38.1 | 33.8 |
| 1968-69 | 37.6 | 30.5 |
| 1969-70 | 37.0 | 29.5 |
| 1970-71 | 38.4 | 29.2 |
| 1971-72 | 36.0 | 29.2 |
| 1972-73 | 35.2 | 28.7 |
| 1973-74 | 35.2 | 28.0 |

4. *Religion.*—The percentage distribution of sterilised persons according to religion is given in Appendix Table (2). It is revealed that more than 70 per cent of the sterilised persons belong to Hinduism. The percentage of Hindus among the sterilised persons is higher than their proportion in the general population. Another trend noticed recently is a slight increase in the percentage of Christians and Muslims among the acceptors. During the period 1957–67 among the sterilised persons the percentage of Muslim is only 6.9 per cent. This has increased to 11.0 per cent by 1973–74. More motivational efforts have to be directed towards the eligible persons from among these communities, to accept this method.

5. *Education of sterilised persons.*—Information regarding the level of education of the sterilised persons shows that less of illiterate people accept this method. Nearly 40 per cent of the population according to the 1971 Census are illiterates. During the period 1957–67 the percentage of illiterates among the sterilised persons was 20.8 per cent. This declined to 9.9 per cent by the year 1973–74. This means that illiterate people are not adequately represented among the sterilised persons. People having educational level of 'above primary' shows a steady increase over the years. In 1973–74 slightly more than 15 per cent of the acceptors are having the educational level of 'Matric and above'. An interesting finding of this study is that over the years there is a rise in the proportion of educated persons especially 'above primary level' among the acceptors and a decline in the proportion of illiterates. Effective steps are therefore required to attract this under represented segment of illiterates to accept this programme. The percentage distribution of sterilised persons according to educational level during the period 1957 to 1973–74 is given in Appendix Table (3).

6. *Income.*—The limitations of the income data are well-known. This is especially so, where no attempt is made to probe into the reported income. With this limitations in view, the information regarding the income distribution of the sterilised persons has to be looked into. This table shows that more than 75 per cent had reported a monthly income of less than Rs. 100 per month. During the earlier period of the programme people who had a monthly income of more than Rs. 100 per month have not been much attracted by this method. Recently their proportion among the acceptors has shown an increasing trend. Nearly 10 per cent of the sterilised persons had a monthly income of Rs. 200 and above during the year 1973–74. The percentage distribution of sterilised persons according to monthly income is given in Appendix Table (4).

7. *Number of living children.*—The number of surviving children at the time of sterilisation indicates the probable desired family size of the acceptor, as also the lively impact on fertility. The impact on birth rate will be more of persons with lesser number of children

accepting sterilisation is much higher than of those who accept sterilisation, after the birth of a large number of children. Information regarding the number of living children at the time of sterilisation, shows that the percentage of those having 3 or less than 3 living children, is steadily increasing over this period. The table given below shows the percentage distribution of sterilised persons with one child, two children and three living children at the time of sterilisation.

TABLE 3

Percentage distribution of sterilised persons having one child, two children and three children, living

| <i>Year</i> | <i>One child</i> | <i>Two children</i> | <i>Three children</i> |
|-------------|------------------|---------------------|-----------------------|
| 1957-61 | 0.8 | 4.7 | 19.9 |
| 1961-62 | 0.9 | 5.3 | 20.6 |
| 1962-63 | 0.5 | 6.9 | 23.1 |
| 1963-64 | 0.4 | 6.6 | 25.4 |
| 1964-65 | 0.5 | 6.3 | 28.0 |
| 1965-66 | 0.7 | 8.7 | 27.4 |
| 1966-67 | 0.9 | 12.1 | 26.1 |
| 1967-68 | 0.9 | 14.9 | 26.9 |
| 1968-69 | 1.0 | 17.7 | 26.7 |
| 1969-70 | 0.9 | 17.8 | 27.8 |
| 1970-71 | 1.2 | 19.5 | 28.7 |
| 1971-72 | 1.4 | 18.5 | 31.5 |
| 1972-73 | 1.3 | 17.6 | 33.7 |
| 1973-74 | 1.4 | 19.1 | 34.8 |

It may be seen that nearly 20 per cent of the persons who have undergone sterilisation had two living children and their proportion has been increasing over the years. This means that more and more people are prepared to accept permanent method after having two children. A detailed distribution of the percentage of sterilised persons according to number of living children is given in Appendix Table (5).

8. *Average number of living children.*—The men had on an average less number of living children than the females who accept sterilisation. The average number of living children is 3.29 in the case of males and 3.71 for females during the year 1973-74.

The table given below shows the average number of living children to sterilised persons for the period 1968-69 to 1973-74.

TABLE 4

Average number of living children

| Year | Male | Female |
|---------|------|--------|
| 1968-69 | 4.15 | 4.40 |
| 1969-70 | 3.80 | 4.20 |
| 1970-71 | 3.68 | 4.00 |
| 1971-72 | 3.52 | 3.91 |
| 1972-73 | 3.38 | 3.80 |
| 1973-74 | 3.29 | 3.71 |

Over the years there is a falling trend in the average number of living children per sterilised male as well as female.

II. Inter district variations in the characteristics of sterilised persons

Inter district variations in respect of some of the important characteristics of sterilised persons like age, religion, number of surviving children at the time of operation and income, for the years 1971-72 to 1973-74 are analysed in this section.

1. *Age composition.*—As already mentioned, information regarding the age of sterilised persons is a good indicator, of the real effectiveness of the programme. More births could be averted if more people in their younger ages accept this method. The age distribution of sterilised persons during the period 1971-72 to 1973-74 is given in Appendix Table (6). It is seen that 43.8 per cent of the males who had undergone sterilisation belong to age "below 35" years in the State. Except Malappuram, Palghat and Cannanore in all the other Districts, percentage of sterilised males who are in the "below 35" age, is about the same as that of State. In Palghat District nearly 70 percentage of the acceptors belong to age 'above 35'. Among the females 67 per cent in the State belonged to the age "below 30" at the time of operation.

In Trivandrum District the percentage of sterilised females "below 30 years" accounts for more than 74 per cent. In all the Districts, except Kottayam, more than 50 to 60 per cent of the females who underwent this operation belonged to the age "below 30" years.

A comparison with the period 1971-72 shows that the percentage of younger people attracted by this programme has gradually increased in all the Districts. The percentage of males who accept this operation from the age "below 35", has increased substantially in all the districts during this period except in Trivandrum, Trichur

and Kozhikode. It is seen that nearly 56 per cent of the male acceptors in Trivandrum District belonged to the age at the time of operation.

The percentage of females accepting sterilisation who are below the age 50 has increased considerably in all the district except Trichur, Trivandrum, Malappuram and Cannanore where there is slight decrease in the percentage. More than 66 per cent of the females who had undergone sterilisation belonged to the age below 30 years. This shows that on an average 15-19 years of the reproductive years of the majority of the tubectomised females have been saved due to this operation.

Compared to previous years the percentage of males who went for this operation who belong to the age below 35 has increased very much during the period 1973-74. In the districts of Trivandrum, Kottayam and Ernakulam more than 60 per cent of the males who had undergone sterilisation belonged to the age below 35 years.

Slight increase in the percentage of females belonging to the age "below 30" years is seen in all the districts during the period. More than 60 per cent of the females who had undergone sterilisation belonged to the age "below 30" years in all the districts except Idikki and Ernakulam. In Trivandrum 73 per cent of the females belonged to the age below 30.

The percentage of males from the "above 45" age who accept this operation has shown steady declining trend during this period. Similar trend is seen in respect of the percentage of females above the age of 35. It is noted that the programme of sterilisation attracts a large number of men belonging to age below 35.

2. *Median age of sterilised persons.*—The median age of sterilised persons during the years 1971-72, 1972-73 and 1973-74 is worked out and given in Appendix Table (6 c). During the year 1971-72 in Ernakulam and Trivandrum Districts, the median age of the vasectomised persons is 33.85 and 33.60 respectively. In all other districts it is between 35 and 37 years. The median age of the sterilised females during this period is found to be between 27-30.

The median age of the sterilised male and female has come down during the period 1972-73 and 1973-74. This shows a welcome shift towards accepting a permanent method while they are young. Among the females the average age at the time of accepting sterilisation is between 27 and 28 during the period 1973-74.

3. *Religion.*—The distribution of sterilised persons according to religion during the period 1971-72, 1972-73 and 1973-74 in the districts is given in Appendix Table (7). The percentage of acceptance by the Hindus is more than their respective proportion in the general

population. The attitudes of the Christians and Muslims communities are not favourable to this systems of family limitation. The proportion of Hindus among the sterilised persons has increased steadily in all the districts during this period. The percentage of Muslims accepting sterilisation in Malappuram District has increased from 33.50 in 1971-72 to 36.83 in 1973-74. In Ernakulam and Idikki the percentage of Christians among the sterilised persons has come down during this period. Greater efforts are necessary to motivate Christian and Muslim Communities to the fold of family planning.

4. *Education.*—The distribution of sterilised persons according to the level of education during the years 1971-72, 1972-73 and 1973-74, in the districts is given in Appendix Table (8). It is interesting to note that during the year 1971-72, the percentage of illiterates among the sterilised persons in all the districts except Palghat is low when compared to the proportion in the general population. The percentage of sterilised persons educated above Matriculation is 17.03 in Trivandrum District.

The highest percentage of sterilised persons belonged to the educational level of 'Primary'.

The percentage of illiterates among the sterilised persons increased in the districts of Trichur and Palghat during the period 1972-73. During this period the percentage of sterilised persons with educational attainment "Matric and above", has increased in the Districts of Trivandrum, Quilon, Alleppey, Kottayam and Palghat. In all the district the highest percentage of sterilised persons belonged to the educational level of 'primary'.

More illiterate people from the districts of Idikki and Cannanore have accepted this programme during the year 1973-74. The percentage of sterilised persons from the "Matric and above group," has increased in the districts of Quilon, Trichur and Palghat during the period.

5. *Income.*—A substantial number of cases have not recorded monthly income. Even in recorded cases there is every chance of it being inaccurate. However, the distribution of sterilised persons according to income is given in Appendix Table (9). It seems that these persons are reluctant to give out correct figures of income. From the figures obtained, it appears that people in higher income groups do not come forward in large proportions to accept this programme. More than 80 per cent of the sterilised persons have reported an income of less than Rs. 100 per month. During the period 1971-72, in Trivandrum and Kottayam Districts more than 13 per cent of the sterilised persons has reported a monthly income of more than Rs. 200. During the year

1972-73, 15.70 per cent of the sterilised persons in Palghat District had reported a monthly income of Rs. 200. More people in the higher income groups in Trivandrum (12.17), Kottayam (14.13), Palghat (19.45), Malappuram (12.09) and Kozhikode (10.76) had accepted this method during the year 1973-74.

6. *Number of living children.*—The number of surviving children at the time of sterilisation will provide information regarding the family size of the person. This also helps to measure the impact on fertility. The distribution of sterilised persons according to number of surviving children at the time of operation during the years 1971-72, 1972-73 and 1973-74 in the districts, is given in Appendix Table (10).

During the year 1971-72 the average number of surviving children to vasectomised persons ranged between 3-4 in all the districts except Ernakulam, Malappuram and Kozhikode where they had 4 or more surviving children. In the case of females who underwent vasectomy, in Idikki District the females had an average of less than 3 surviving children when they underwent the operation. This will range between 3-4 in other districts except Kottayam, Ernakulam, Palghat, Malappuram and Cannanore where those females had undergone this operation had 4 or more surviving children at the time of operation. The average number of living children to sterilised persons in these districts is given in Appendix Table (10). There is steady declining trend in the case of average number of children in all the districts during the period 1972-73 and 1973-74, for males and females who underwent this operation. The average number of children is less than 4 to those men who had undergone this operation during the period 1972-73 in all the districts except in Trivandrum District where the average number of children to males who had undergone this operation is 2.93.

When compared to the previous year, the average number of surviving children is less to females who underwent this operation during the period 1972-73.

It is interesting to note that during the year 1973-74 men and women with lesser number of surviving children were attracted to vasectomy.

The percentage of sterilised persons who had 3 or less than 3 living children will indicate the success of the programme. The table given below provides information regarding the percentage of acceptors who had 3 or less than 3 living children at the time of operation in the districts during the period 1971-72, and 1972-73 and 1973-74.

TABLE 5
Percentage of sterilised persons who had 3 or less than
3 living children at the time of operation

| Districts | 1971-72 | | 1972-73 | | 1973-74 | |
|---------------|---------|--------|---------|--------|---------|--------|
| | Male | Female | Male | Female | Male | Female |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Trivandrum .. | 71.54 | 52.28 | 74.55 | 57.66 | 78.17 | 61.21 |
| Quilon .. | 59.69 | 51.36 | 68.14 | 51.85 | 71.85 | 52.75 |
| Alleppey .. | 58.61 | 51.54 | 65.54 | 46.77 | 64.67 | 46.17 |
| Kottayam .. | 54.88 | 40.14 | 55.47 | 50.65 | 63.30 | 53.69 |
| Idikki .. | 57.60 | 38.18 | 59.86 | 49.44 | 61.14 | 44.58 |
| Ernakulam .. | 64.28 | 45.36 | 70.72 | 44.98 | 78.92 | 50.30 |
| Trichur .. | 60.38 | 47.39 | 62.04 | 43.51 | 67.56 | 50.88 |
| Palghat .. | 48.70 | 37.04 | 55.48 | 40.84 | 67.41 | 48.16 |
| Malappuram .. | 40.57 | 42.28 | 48.29 | 42.13 | 50.73 | 44.01 |
| Kozhikode .. | 59.09 | 45.68 | 56.88 | 42.09 | 61.39 | 45.38 |
| Cannanore .. | 49.09 | 40.91 | 68.14 | 51.85 | 55.12 | 39.61 |

The percentage of sterilised persons who had 3 or less than 3 living children at the time of operation has steadily increased in all the districts during this period.

III. Impact of the Programme

The ultimate aim of the programme is to reduce the birth rate. The target of birth rate reduction fixed by Government of India is to reduce the birth rate from 39 per 1000 population in 1970 to 30 by 1979 and to 25 by 1984*. To achieve this target of birth rate reduction, 30 to 45 per cent of the eligible couples will have to be protected against the risk of conception during this period.

The number of eligible couples protected through the sterilisation method will measure the success of the programme. For this purpose the following indicators are given.

- (1) The number of eligible couples in the age group 15-49 protected against the risk of conception by this method.
- (2) The percentage of the couples protected.
- (3) and the number of births averted by sterilisation.

*K. C. Seal—The family planning programme in India—In population in India's Development—1947-2000. P. 381.

1. *Number of couples (Cumulative) protected by sterilisation.*—The number of couples protected by the cumulative performance of sterilisation since its inception is given in Appendix Table (11). By the end of 1973-74, out of a total of 32.57 lakhs of eligible couples in the reproductive age group 15-49, only 6.30 lakhs have been protected by this method. The number of couples protected by sterilisation is more in Trivandrum, Quilon and Ernakulam than in the other districts.

2. *Prevention of couples protected by sterilisation.*—The percentage of couples protected in the Districts by sterilisation since its inception is given in Appendix Table (12). This shows that nearly 20 per cent of the eligible couples have been protected by this method till the end of 1973-74. In Ernakulam district where 50 per cent and in Trivandrum district above 30 per cent of eligible couples have been protected. In the northern districts of the State—especially, Malappuram and Palghat are lagging behind the State's performance. More efforts are required in the districts of Malappuram and Palghat to bring the eligible couples to the fold of family planning programme.

3. *Number of births saved by sterilisation.*—The number of births saved by sterilisation method will provide a quantitative assessment of the impact of the programme. The calculation is done by applying the norm of number of births averted by one sterilisation evolved by Dr. R. S. Kurup,† in respect of Kerala. According to this, one sterilisation would prevent 2.5 births in 23 years. As such, the sterilisation done upto March 31st 1974 will prevent a total of 16.25 lakhs births by the year 1997-98.

The appendix table (13) gives the number of sterilisation, the number of births saved during each year, and the number of births that would be saved till the year 1997-98 by the sterilisation operations conducted upto March 1974, since its inception.

Summary.—The percentage of younger people who had undergone sterilisation is steadily increasing over the years. The percentage of tubectomised persons below 'age 30' has increased from 62.3 in 1957-67 to 76.8 in 1973-74. The median age of sterilised persons shows a steady declining trend over the years. More than 70 per cent of the sterilised persons belong to Hinduism. Information regarding the level of education of the sterilised persons shows that less illiterate people accept this method. People having educational level of 'above primary' shows a steady increase over these years. More than 75 per cent had reported a monthly income of less than Rs. 100 per month. The percentage of sterilised persons having 3 or less than 3 living children is steadily increasing over these period. The average number of living children is 3.29 in the case of males and 3.71 for females during the year 1973-74.

†Kurup R. S.—A note on the calculation of births averted due to the Family Planning Programme in Kerala—October 1973—D.R.C. Trivandrum.

The inter-district variation in respect of some of the important characteristics of sterilised persons are analysed in this report. In all districts except Malappuram, Palghat and Cannanore the percentage of sterilised males who are in the below "35 age group" is almost the same as that of the State. In Palghat district nearly 70 per cent of the acceptors belong to the age above 35. The percentage of females accepting sterilisation belong to the age 30 has increased considerably in all the districts, except Ernakulam, Trichur, Malappuram and Cannanore.

The median age of males and females during the period 1971-72 to 1973-74 is between 35-37 and 27-30 respectively. More than 80 per cent of the sterilised persons had a monthly income of less than Rs. 100.

The proportion of Hindus among the sterilised persons has increased steadily in all the districts during this period.

Illiterate people are showing reluctance to accept this method. In Trivandrum district 17.03 per cent of the acceptors are educated above Matriculation.

The percentage of sterilised persons who had 3 or less than 3 living children at the time of operation has steadily increased in all the districts during this period.

Out of a total of 32.57 lakhs of eligible couples in the reproductive age group 15-49 only 6.30 lakhs were protected by this method. The number of couples protected by sterilisation is more in Trivandrum, Quilon and Ernakulam districts. 20 per cent of the eligible couples are protected by this method till the end of 1973-74. A total of 16.25 lakhs of births will be averted by this method by the year 1997-98 due to this sterilisation operation done upto March 1974 since the inception of the programme.

APPENDIX
List of Tables

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TABLE 1 (a)
Percentage distribution of vasectomised persons according to age

| Age group | 1957-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 15-19 | .. | .. | .. | .. | 0.09 | .. | .. | .. |
| 20-24 | 0.4 | 0.6 | 0.7 | 1.0 | 2.11 | 1.63 | 1.99 | 1.61 |
| 25-29 | 7.7 | 9.3 | 10.4 | 12.2 | 16.03 | 17.12 | 19.37 | 19.92 |
| 30-34 | 23.5 | 21.6 | 21.8 | 23.1 | 24.28 | 25.58 | 27.79 | 27.25 |
| 35-39 | 30.7 | 28.6 | 27.6 | 28.1 | 27.10 | 29.02 | 27.63 | 27.95 |
| 40-44 | 37.7 | 21.2 | 20.6 | 18.5 | 16.45 | 15.24 | 14.49 | 15.42 |
| 45+ | .. | 18.7 | 18.9 | 17.1 | 13.89 | 11.41 | 8.73 | 7.85 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

TABLE 1 (b)
Percentage distribution of tubectomised persons according to age

| Age group | 1957-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 15-19 | 0.1 | 0.3 | 0.3 | 0.3 | 0.13 | 0.47 | 0.44 | 0.43 |
| 20-24 | 9.7 | 12.2 | 13.8 | 15.2 | 17.66 | 17.95 | 19.31 | 23.09 |
| 25-29 | 34.7 | 37.1 | 35.9 | 38.4 | 38.30 | 37.86 | 40.88 | 43.14 |
| 30-34 | 32.1 | 29.9 | 29.7 | 28.1 | 26.76 | 26.29 | 24.30 | 21.09 |
| 35-39 | 19.1 | 16.8 | 17.2 | 15.2 | 14.18 | 14.70 | 12.84 | 10.55 |
| 40-44 | 4.3 | 3.2 | 2.7 | 2.4 | 2.42 | 2.37 | 1.95 | 1.52 |
| 45+ | .. | 0.5 | 0.5 | 0.4 | 0.61 | 0.36 | 0.28 | 0.18 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

TABLE 2
Percentage distribution of sterilised persons according to religion
1957-67 to 1973-74

| Year | Hindus | Christians | Muslims | Total |
|---------|--------|------------|---------|--------|
| 1 | 2 | 3 | 4 | 5 |
| 1957-67 | 74.2 | 18.9 | 6.9 | 100.00 |
| 1967-68 | 73.9 | 18.5 | 7.6 | 100.00 |
| 1968-69 | 73.1 | 18.2 | 8.7 | 100.00 |
| 1969-70 | 74.3 | 17.9 | 7.8 | 100.00 |
| 1970-71 | 72.4 | 19.3 | 8.4 | 100.00 |
| 1971-72 | 66.95 | 23.91 | 9.14 | 100.00 |
| 1972-73 | 70.92 | 19.44 | 9.63 | 100.00 |
| 1973-74 | 72.88 | 16.12 | 11.00 | 100.00 |

TABLE 6 (a)
Percentage distribution of vasectomised persons according
to age 1971-74

| District | Year | Age distribution | | | | | | |
|------------|---------|------------------|-------|-------|-------|-------|-------|-------|
| | | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45+ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Trivandrum | 1971-72 | .. | 2.43 | 31.50 | 22.35 | 21.35 | 8.14 | 14.23 |
| | 1972-73 | .. | 3.05 | 25.19 | 30.53 | 24.81 | 10.69 | 5.73 |
| | 1973-74 | .. | 0.44 | 27.10 | 34.23 | 20.41 | 12.09 | 5.51 |
| Quilon | 1971-72 | .. | 1.72 | 20.52 | 23.96 | 30.25 | 14.11 | 9.44 |
| | 1972-73 | .. | 1.62 | 28.85 | 27.82 | 22.48 | 11.24 | 7.99 |
| | 1973-74 | .. | 2.01 | 24.89 | 27.72 | 28.92 | 10.84 | 5.62 |
| Alleppey | 1971-72 | .. | 1.05 | 14.61 | 27.27 | 34.48 | 14.16 | 8.43 |
| | 1972-73 | .. | 1.07 | 20.13 | 26.02 | 28.37 | 14.77 | 9.64 |
| | 1973-74 | .. | 0.81 | 19.92 | 25.18 | 29.36 | 15.58 | 8.97 |
| Kottayam | 1971-72 | .. | 0.79 | 18.32 | 30.27 | 29.08 | 11.55 | 9.99 |
| | 1972-73 | .. | 3.30 | 19.12 | 28.57 | 29.45 | 11.21 | 8.35 |
| | 1973-74 | .. | 6.61 | 26.59 | 27.74 | 23.41 | 11.56 | 4.04 |
| Idikki | 1971-72 | .. | 4.31 | 22.58 | 24.73 | 32.26 | 9.67 | 6.45 |
| | 1972-73 | .. | 4.88 | 27.04 | 30.49 | 23.17 | 10.57 | 3.25 |
| | 1973-74 | .. | 6.80 | 34.29 | 23.13 | 19.04 | 14.28 | 5.46 |
| Ernakulam | 1971-72 | .. | 4.17 | 22.57 | 30.21 | 26.39 | 12.15 | 4.51 |
| | 1972-73 | .. | 1.84 | 14.74 | 35.03 | 29.04 | 10.60 | 8.75 |
| | 1973-74 | .. | 5.85 | 26.90 | 29.25 | 23.39 | 12.86 | 1.75 |
| Trichur | 1971-72 | .. | 1.49 | 17.85 | 26.39 | 32.72 | 14.86 | 6.69 |
| | 1972-73 | .. | 2.02 | 15.85 | 30.5 | 30.85 | 14.51 | 6.42 |
| | 1973-74 | .. | 3.87 | 26.75 | 26.35 | 26.36 | 12.41 | 4.26 |
| Palghat | 1971-72 | .. | 0.33 | 10.26 | 18.54 | 39.07 | 18.29 | 13.51 |
| | 1972-73 | .. | 0.78 | 12.31 | 24.61 | 33.07 | 16.15 | 13.08 |
| | 1973-74 | .. | 0.51 | 14.75 | 23.49 | 33.33 | 19.67 | 8.19 |
| Malappuram | 1971-72 | .. | 1.26 | 9.69 | 22.93 | 31.11 | 19.14 | 15.87 |
| | 1972-73 | .. | 2.01 | 14.24 | 21.84 | 28.17 | 20.43 | 13.31 |
| | 1973-74 | .. | 1.66 | 15.89 | 24.58 | 29.95 | 19.05 | 8.13 |
| Kozhikode | 1971-72 | .. | 1.49 | 15.29 | 27.11 | 28.11 | 15.06 | 12.94 |
| | 1972-73 | .. | 1.48 | 15.25 | 27.68 | 28.78 | 16.97 | 9.84 |
| | 1973-74 | .. | 0.94 | 15.52 | 27.33 | 29.93 | 16.93 | 9.35 |
| Cannanore | 1971-72 | .. | 1.28 | 10.55 | 25.27 | 30.91 | 20.04 | 11.95 |
| | 1972-73 | .. | 0.46 | 9.26 | 28.71 | 32.87 | 17.13 | 11.57 |
| | 1973-74 | .. | 0.97 | 13.17 | 21.96 | 33.91 | 17.80 | 12.19 |
| State | 1971-72 | .. | 1.63 | 17.12 | 25.58 | 29.02 | 15.24 | 11.41 |
| | 1972-73 | .. | 1.99 | 19.37 | 27.79 | 27.63 | 14.49 | 8.73 |
| | 1973-74 | .. | 1.61 | 19.92 | 27.25 | 27.95 | 15.42 | 7.85 |

TABLE 6 (b)
Percentage distribution of tubectomised persons according
to age 1971-74

| District | Year | Age distribution | | | | | | |
|------------|---------|------------------|-------|-------|-------|-------|-------|------|
| | | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45+ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Trivandrum | 1971-72 | .. | 31.21 | 43.25 | 20.33 | 5.04 | 0.17 | .. |
| | 1972-73 | 0.21 | 27.99 | 45.55 | 18.74 | 7.00 | 0.51 | .. |
| | 1973-74 | 0.49 | 28.46 | 44.39 | 19.98 | 6.17 | 0.45 | 0.02 |
| Quilon | 1971-72 | 0.31 | 21.05 | 42.63 | 22.73 | 11.66 | 1.46 | 0.16 |
| | 1972-73 | 0.13 | 22.01 | 46.24 | 21.77 | 8.83 | 0.82 | 0.20 |
| | 1973-74 | 0.24 | 22.74 | 46.35 | 19.78 | 9.36 | 1.43 | 0.10 |
| Alleppey | 1971-72 | 1.79 | 21.21 | 34.19 | 24.63 | 15.23 | 2.79 | 0.16 |
| | 1972-73 | 0.23 | 16.23 | 41.54 | 27.54 | 12.74 | 1.54 | 0.18 |
| | 1973-74 | 0.31 | 16.44 | 43.21 | 23.17 | 12.66 | 1.83 | 0.38 |
| Kottayam | 1971-72 | 0.27 | 5.98 | 39.42 | 32.01 | 19.00 | 2.69 | 0.63 |
| | 1972-73 | 0.80 | 16.53 | 39.31 | 25.67 | 14.72 | 2.65 | 0.32 |
| | 1973-74 | 0.98 | 19.75 | 42.76 | 20.02 | 13.18 | 3.13 | 0.18 |
| Idikki | 1971-72 | .. | 12.91 | 41.94 | 28.49 | 13.97 | 2.69 | .. |
| | 1972-73 | 0.96 | 17.06 | 40.39 | 23.32 | 12.98 | 5.03 | 0.24 |
| | 1973-74 | 0.79 | 17.78 | 40.31 | 25.29 | 12.05 | 3.17 | 0.60 |
| Ernakulam | 1971-72 | 0.17 | 16.64 | 38.73 | 28.28 | 14.05 | 1.65 | 0.48 |
| | 1972-73 | 0.24 | 17.10 | 36.56 | 27.76 | 16.12 | 1.52 | 0.70 |
| | 1973-74 | 0.81 | 19.05 | 39.84 | 27.18 | 11.73 | 1.28 | 0.11 |
| Trichur | 1971-72 | 1.79 | 21.21 | 34.19 | 24.63 | 15.33 | 2.69 | 0.16 |
| | 1972-73 | 0.38 | 14.77 | 37.64 | 27.54 | 16.86 | 2.53 | 0.28 |
| | 1973-74 | 0.33 | 25.81 | 34.06 | 26.53 | 13.27 | .. | .. |
| Palghat | 1971-72 | .. | 21.51 | 39.24 | 25.31 | 13.91 | 0.03 | .. |
| | 1972-73 | 0.54 | 18.48 | 43.85 | 21.74 | 13.95 | 0.50 | 0.54 |
| | 1973-74 | 0.69 | 22.34 | 38.89 | 23.30 | 12.37 | 2.41 | .. |
| Malappuram | 1971-72 | 0.49 | 19.76 | 39.52 | 25.92 | 12.34 | 1.23 | 0.74 |
| | 1972-73 | 1.27 | 17.46 | 33.80 | 28.45 | 15.92 | 2.68 | 0.42 |
| | 1973-74 | 0.63 | 22.70 | 37.94 | 22.70 | 18.09 | 2.22 | 0.48 |
| Kozhikode | 1971-72 | 1.25 | 20.36 | 33.57 | 24.64 | 16.25 | 3.22 | 0.71 |
| | 1972-73 | 0.47 | 23.08 | 38.79 | 22.08 | 13.03 | 2.03 | 0.52 |
| | 1973-74 | 0.43 | 23.43 | 40.13 | 20.50 | 13.26 | 1.95 | 0.30 |
| Cannanore | 1971-72 | 0.08 | 23.07 | 46.06 | 20.54 | 7.69 | 2.56 | .. |
| | 1972-73 | 0.43 | 15.15 | 42.85 | 25.12 | 12.77 | 3.25 | 0.43 |
| | 1973-74 | 0.43 | 19.06 | 41.54 | 22.19 | 13.06 | 1.93 | 1.07 |
| State | 1971-72 | 0.47 | 17.95 | 37.86 | 26.29 | 14.70 | 2.37 | 0.36 |
| | 1972-73 | 0.44 | 19.31 | 40.88 | 24.30 | 12.84 | 1.95 | 0.28 |
| | 1973-74 | 0.43 | 23.09 | 43.14 | 21.09 | 10.55 | 1.52 | 0.18 |

TABLE 6 (c)
Median age of sterilised persons 1971-72, 1972-73, and 1973-74

| Districts | Median age—Males and Females | | | | | |
|---------------|------------------------------|--------|---------|--------|---------|--------|
| | 1971-72 | | 1972-73 | | 1973-74 | |
| | Male | Female | Male | Female | Male | Female |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Trivandrum .. | 33·60 | 27·17 | 33·56 | 27·40 | 33·28 | 27·37 |
| Quilon .. | 35·63 | 28·36 | 33·51 | 28·01 | 34·17 | 27·91 |
| Alleppey .. | 36·03 | 28·95 | 35·49 | 29·04 | 35·70 | 28·84 |
| Kottayam .. | 35·11 | 30·68 | 34·83 | 29·16 | 33·03 | 28·42 |
| Idikki .. | 35·89 | 29·42 | 32·87 | 28·96 | 32·57 | 28·90 |
| Ernakulam .. | 33·85 | 29·30 | 34·77 | 29·47 | 32·95 | 28·78 |
| Trichur .. | 35·65 | 28·95 | 35·29 | 29·58 | 33·68 | 28·50 |
| Palghat .. | 37·67 | 28·63 | 36·86 | 28·53 | 36·69 | 28·47 |
| Malappuram .. | 37·59 | 28·76 | 37·11 | 29·63 | 36·31 | 28·51 |
| Kozhikode .. | 36·09 | 29·23 | 35·97 | 28·41 | 36·03 | 28·26 |
| Cannanore .. | 36·12 | 27·91 | 36·76 | 29·02 | 37·05 | 28·67 |
| State .. | 36·00 | 29·2 | 35·2 | 28·7 | 35·2 | 28·00 |

TABLE 7
Percentage distribution of sterilised persons according to religion

| (1) | Religion (2) | 1971-72 (3) | 1972-73 (4) | 1973-74 (5) |
|------------|-----------------|----------------|----------------|----------------|
| Trivandrum | Hindus | 83.67 | 82.50 | 82.80 |
| | Christians | 11.25 | 10.32 | 9.85 |
| | Muslims | 5.08 | 7.18 | 7.35 |
| | Total | 100.00 | 100.00 | 100.00 |
| Quilon | Hindus | 74.00 | 72.13 | 71.97 |
| | Christians | 16.41 | 18.20 | 17.70 |
| | Muslims | 9.59 | 9.67 | 10.33 |
| | Total | 100.00 | 100.00 | 100.00 |
| Alleppey | Hindus | 68.99 | 76.37 | 78.45 |
| | Christians | 25.45 | 18.86 | 16.57 |
| | Muslims | 5.56 | 4.77 | 4.98 |
| | Total | 100.00 | 100.00 | 100.00 |
| Kottayam | Hindus | 53.59 | 52.21 | 54.53 |
| | Christians | 44.01 | 44.01 | 40.43 |
| | Muslims | 2.40 | 3.78 | 5.04 |
| | Total | 100.00 | 100.00 | 100.00 |
| Idikki | Hindus | 44.37 | 54.69 | 55.22 |
| | Christians | 48.68 | 40.55 | 36.46 |
| | Muslims | 6.95 | 4.76 | 8.32 |
| | Total | 100.00 | 100.00 | 100.00 |
| Ernakulam | Hindus | 46.24 | 51.09 | 52.22 |
| | Christians | 44.26 | 38.48 | 33.48 |
| | Muslims | 9.50 | 10.43 | 14.30 |
| | Total | 100.00 | 100.00 | 100.00 |
| Trichur | Hindus | 61.32 | 67.50 | 72.54 |
| | Christians | 34.17 | 24.68 | 22.73 |
| | Muslims | 4.51 | 7.82 | 4.73 |
| | Total | 100.00 | 100.00 | 100.00 |
| Palghat | Hindus | 79.66 | 86.59 | 81.04 |
| | Christians | 4.90 | 2.90 | 5.95 |
| | Muslims | 15.44 | 10.51 | 13.01 |
| | Total | 100.00 | 100.00 | 100.00 |
| Kozhikode | Hindus | 79.89 | 78.15 | 77.13 |
| | Christians | 7.20 | 7.74 | 6.62 |
| | Muslims | 12.91 | 14.11 | 16.25 |
| | Total | 100.00 | 100.00 | 100.00 |
| Malappuram | Hindus | 60.47 | 57.43 | 57.05 |
| | Christians | 6.03 | 5.88 | 6.12 |
| | Muslims | 33.50 | 36.69 | 36.83 |
| | Total | 100.00 | 100.00 | 100.00 |
| Cannanore | Hindus | 80.45 | 83.83 | 86.33 |
| | Christians | 13.16 | 11.32 | 8.43 |
| | Muslims | 6.39 | 4.85 | 5.24 |
| | Total | 100.00 | 100.00 | 100.00 |
| Kerala | Hindus | 66.95 | 70.92 | 72.88 |
| | Christians | 23.91 | 19.44 | 16.12 |
| | Muslims | 9.14 | 9.64 | 11.00 |
| | Total | 100.00 | 100.00 | 100.00 |

TABLE 8
Percentage distribution of sterilised persons according to education 1971-74

| District | Year | Educational level | | | | | | | Total |
|------------|---------|-------------------|------------------------|----------------------------|---------------------------|------------------|---------------|--------|-------|
| | | Illiterates | Literate below primary | Above primary below middle | Above middle below matric | Matric and above | Not specified | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| Trivandrum | 1971-72 | 11.84 | 38.08 | 24.27 | 3.22 | 17.03 | 5.56 | 100.00 | |
| | 1972-73 | 6.50 | 25.46 | 32.99 | 10.42 | 24.63 | 1.12 | 100.00 | |
| | 1973-74 | 17.02 | 22.13 | 26.55 | 11.12 | 22.06 | .. | 100.00 | |
| Quilon | 1971-72 | 15.99 | 44.42 | 26.46 | 6.32 | 6.81 | .. | 100.00 | |
| | 1972-73 | 0.71 | 40.22 | 36.32 | 10.25 | 12.50 | .. | 100.00 | |
| | 1973-74 | 4.31 | 28.94 | 36.68 | 8.92 | 21.15 | .. | 100.00 | |
| Alleppey | 1971-72 | 7.61 | 36.80 | 35.01 | 9.00 | 11.58 | .. | 100.00 | |
| | 1972-73 | 6.16 | 34.68 | 37.09 | 9.13 | 12.94 | .. | 100.00 | |
| | 1973-74 | 11.76 | 32.91 | 37.99 | 14.94 | 11.03 | 1.32 | 100.00 | |
| Kottayam | 1971-72 | 3.97 | 32.05 | 28.33 | 17.92 | 14.88 | 2.85 | 100.00 | |
| | 1972-73 | 4.84 | 42.86 | 25.57 | 11.29 | 15.44 | .. | 100.00 | |
| | 1973-74 | 2.71 | 31.19 | 35.72 | 15.11 | 15.27 | .. | 100.00 | |
| Idikki | 1971-72 | 12.63 | 36.84 | 30.53 | 10.53 | 6.32 | 3.15 | 100.00 | |
| | 1972-73 | 20.05 | 29.53 | 32.31 | 8.08 | 9.47 | 0.56 | 100.00 | |
| | 1973-74 | 41.43 | 16.67 | 19.05 | 10.00 | 8.09 | 4.76 | 100.00 | |
| Ernakulam | 1971-72 | 18.34 | 32.41 | 25.53 | 12.79 | 10.80 | 0.13 | 100.00 | |
| | 1972-73 | 7.01 | 38.37 | 25.37 | 11.67 | .. | .. | 100.00 | |
| | 1973-74 | 0.91 | 38.81 | 34.43 | 9.04 | 16.81 | .. | 100.00 | |

TABLE 8—(cont.)

| District | Year | Educational level | | | | | | Total |
|------------|---------|-------------------|------------------------|----------------------------|---------------------------|------------------|---------------|--------|
| | | Illiterates | Literate below primary | Above primary below middle | Above middle below matric | Matric and above | Not specified | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Trichur | 1971-72 | 19.86 | 44.58 | 21.34 | 7.02 | 7.20 | .. | 100.00 |
| | 1972-73 | 56.93 | 21.17 | 7.29 | 14.62 | .. | .. | 100.00 |
| | 1973-74 | 0.26 | 36.48 | 40.05 | 8.93 | 14.28 | .. | 100.00 |
| Palghat | 1971-72 | 33.72 | 17.87 | 26.51 | 7.49 | 7.49 | 6.92 | 100.00 |
| | 1972-73 | 18.67 | 27.86 | 25.61 | 10.15 | 16.58 | 1.13 | 100.00 |
| | 1973-74 | 9.94 | 17.98 | 31.07 | 17.98 | 20.98 | 2.05 | 100.00 |
| Malappuram | 1971-72 | 16.77 | 29.33 | 29.70 | 11.64 | 11.55 | 1.01 | 100.00 |
| | 1972-73 | 30.95 | 23.21 | 28.29 | 9.95 | 7.29 | 0.31 | 100.00 |
| | 1973-74 | 18.63 | 25.47 | 32.34 | 11.71 | 10.85 | .. | 100.00 |
| Kozhikode | 1971-72 | 18.97 | 27.58 | 37.15 | 8.97 | 6.90 | 0.43 | 100.00 |
| | 1972-73 | 2.13 | 24.79 | 37.78 | 12.93 | 11.09 | 11.23 | 100.00 |
| | 1973-74 | 7.11 | 30.01 | 38.17 | 14.10 | 10.61 | .. | 100.00 |
| Cannanore | 1971-72 | 17.58 | 23.59 | 33.23 | 5.17 | 9.25 | 11.18 | 100.00 |
| | 1972-73 | 25.95 | 9.80 | 17.18 | 7.90 | 7.73 | 31.44 | 100.00 |
| | 1973-74 | 31.48 | 11.50 | 20.79 | 6.27 | 5.92 | 24.04 | 100.00 |
| State | 1971-72 | 15.37 | 33.39 | 28.49 | 10.00 | 10.39 | 2.36 | 100.00 |
| | 1972-73 | 7.42 | 33.13 | 31.57 | 9.97 | 15.42 | 2.49 | 100.00 |
| | 1973-74 | 9.92 | 27.32 | 33.10 | 12.23 | 15.93 | 1.50 | 100.00 |

TABLE 9
Percentage distribution of sterilised persons according to income—Districts

| District | Year | Income Rs. | | | | | Total Rs. |
|------------|---------|------------|-------|---------|---------|-------|--------------|
| | | <50 | 50-99 | 100-149 | 150-199 | 200+ | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Trivandrum | 1971-72 | 14.70 | 55.22 | 10.65 | 5.11 | 14.32 | 100.00 |
| | 1972-73 | 4.04 | 76.51 | 5.17 | 4.65 | 9.63 | 100.00 |
| | 1973-74 | 0.32 | 77.89 | 3.53 | 6.07 | 12.17 | 100.00 |
| Quilon | 1971-72 | 5.57 | 81.66 | 8.00 | 1.50 | 3.27 | 100.00 |
| | 1972-73 | 2.30 | 86.26 | 4.05 | 4.03 | 3.36 | 100.00 |
| | 1973-74 | 0.86 | 89.88 | 2.98 | 2.27 | 4.01 | 100.00 |
| Alleppey | 1971-72 | 11.61 | 74.03 | 5.88 | 3.43 | 5.05 | 100.00 |
| | 1972-73 | 2.39 | 82.76 | 4.88 | 3.16 | 6.81 | 100.00 |
| | 1973-74 | 2.45 | 78.42 | 8.32 | 3.70 | 7.11 | 100.00 |
| Kottayam | 1971-72 | 0.92 | 60.87 | 15.94 | 9.19 | 13.08 | 100.00 |
| | 1972-73 | 1.16 | 55.21 | 21.04 | 10.45 | 12.14 | 100.00 |
| | 1973-74 | 0.26 | 58.29 | 19.82 | 7.50 | 14.13 | 100.00 |
| Idikki | 1971-72 | 6.12 | 36.76 | 40.80 | 10.20 | 6.12 | 100.00 |
| | 1972-73 | 1.29 | 62.37 | 17.53 | 10.05 | 8.67 | 100.00 |
| | 1973-74 | 1.18 | 66.48 | 17.05 | 6.47 | 8.82 | 100.00 |
| Ernakulam | 1971-72 | 2.19 | 69.10 | 11.80 | 7.96 | 8.95 | 100.00 |
| | 1972-73 | 0.71 | 76.55 | 6.41 | 6.41 | 9.91 | 100.00 |
| | 1973-74 | 1.85 | 76.10 | 8.30 | 7.75 | 6.00 | 100.00 |

TABLE 9—(cont.)

| District | Year | Income Rs. | | | | | Total |
|------------|---------|------------|-------|---------|---------|-------|--------|
| | | <50 | 50-99 | 100-149 | 150-199 | 200+ | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | Rs. |
| Trichur | 1971-72 | 3.46 | 76.89 | 13.68 | 2.21 | 3.76 | 100.00 |
| | 1972-73 | 4.09 | 71.45 | 12.27 | 3.70 | 8.49 | 100.00 |
| | 1973-74 | 0.72 | 70.40 | 17.33 | 3.61 | 7.94 | 100.00 |
| Palghat | 1971-72 | 11.94 | 65.12 | 11.47 | 4.68 | 6.79 | 100.00 |
| | 1972-73 | 1.05 | 58.88 | 15.85 | 8.52 | 15.70 | 100.00 |
| | 1973-74 | 1.52 | 56.76 | 10.48 | 9.79 | 19.45 | 100.00 |
| Malappuram | 1971-72 | 9.86 | 73.86 | 6.65 | 3.13 | 6.50 | 100.00 |
| | 1972-73 | 6.95 | 75.11 | 7.74 | 3.59 | 6.61 | 100.00 |
| | 1973-74 | 1.47 | 70.17 | 11.75 | 4.52 | 12.09 | 100.00 |
| Kozhikode | 1971-72 | 4.35 | 83.91 | 7.91 | 1.83 | 2.00 | 100.00 |
| | 1972-73 | 6.59 | 73.61 | 5.65 | 4.69 | 9.47 | 100.00 |
| | 1973-74 | 3.72 | 77.46 | 5.20 | 2.86 | 10.76 | 100.00 |
| Cannanore | 1971-72 | 3.89 | 77.03 | 6.20 | 5.09 | 7.79 | 100.00 |
| | 1972-73 | 7.99 | 78.25 | 2.36 | 2.82 | 8.58 | 100.00 |
| | 1973-74 | 3.31 | 74.46 | 10.26 | 5.58 | 6.39 | 100.00 |
| Total | 1971-72 | 6.40 | 71.60 | 10.07 | 4.58 | 7.35 | 100.00 |
| | 1972-73 | 3.62 | 75.57 | 7.35 | 5.08 | 8.38 | 100.00 |
| | 1973-74 | 2.36 | 75.11 | 7.75 | 4.86 | 9.92 | 100.00 |

TABLE 10 (a)
Percentage distribution of vasectomised persons according to number of living children 1971-74

| District | Year | Number of children living | | | | | | | | | |
|---------------|---------|---------------------------|-------|-------|-------|-------|------|------|------|------|--------|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) + |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Trivandrum .. | 1971-72 | 0.68 | 38.27 | 32.59 | 14.01 | 7.32 | 4.23 | 2.34 | 0.34 | 0.11 | 0.11 |
| | 1972-73 | 0.72 | 46.22 | 27.61 | 15.43 | 5.88 | 3.02 | 0.88 | 0.24 | .. | .. |
| | 1973-74 | 1.11 | 46.89 | 30.17 | 14.57 | 4.78 | 1.35 | 0.64 | 0.40 | 0.09 | .. |
| Quilon .. | 1971-72 | 1.32 | 29.92 | 28.45 | 19.37 | 11.00 | 4.93 | 2.73 | 0.96 | 0.88 | 0.44 |
| | 1972-73 | 1.55 | 36.03 | 30.56 | 16.05 | 7.97 | 4.52 | 2.50 | 0.47 | 0.12 | 0.23 |
| | 1973-74 | 1.98 | 37.42 | 32.45 | 13.91 | 7.95 | 3.64 | 1.99 | 0.33 | .. | 0.33 |
| Alleppey .. | 1971-72 | 0.13 | 28.02 | 30.46 | 19.66 | 11.83 | 6.17 | 2.18 | 0.65 | 0.52 | 0.38 |
| | 1972-73 | 0.89 | 31.65 | 33.00 | 15.55 | 9.40 | 4.81 | 2.58 | 1.34 | 0.78 | .. |
| | 1973-74 | 1.20 | 32.73 | 30.74 | 18.20 | 9.14 | 4.04 | 2.62 | 1.05 | 0.53 | 0.15 |
| Kottayam .. | 1971-72 | .. | 24.71 | 30.17 | 23.97 | 11.15 | 6.19 | 2.47 | 0.83 | 0.45 | .. |
| | 1972-73 | 0.88 | 26.96 | 27.63 | 18.04 | 12.72 | 7.24 | 2.85 | 1.54 | 1.54 | .. |
| | 1973-74 | 6.59 | 30.59 | 26.12 | 19.53 | 7.76 | 5.41 | 1.65 | 1.18 | 0.94 | 0.23 |
| Iditki .. | 1971-72 | 0.47 | 27.67 | 29.46 | 16.07 | 11.60 | 8.92 | 2.67 | 0.89 | 1.78 | 0.47 |
| | 1972-73 | 2.19 | 24.45 | 33.22 | 17.84 | 11.68 | 6.57 | 2.19 | 1.09 | 0.36 | 0.36 |
| | 1973-74 | 0.69 | 30.55 | 29.90 | 13.89 | 7.63 | 6.25 | 5.55 | 3.47 | 0.69 | 1.38 |
| Ernakulam .. | 1971-72 | 0.85 | 26.86 | 36.57 | 18.86 | 9.71 | 2.08 | 3.14 | 1.42 | 0.51 | .. |
| | 1972-73 | .. | 33.78 | 36.94 | 13.06 | 9.46 | 3.16 | 1.80 | 1.35 | .. | 0.45 |
| | 1973-74 | 0.90 | 39.91 | 38.11 | 11.21 | 4.48 | 2.69 | 0.90 | 0.90 | 0.90 | .. |

TABLE 10 (a)—(cont.)

| District | Year | Number of children living | | | | | | | | | |
|---------------|---------|---------------------------|-------|-------|-------|-------|-------|------|------|------|--------|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) + |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Trichur .. | 1971-72 | 0.45 | 24.39 | 35.54 | 17.87 | 12.07 | 6.76 | 1.80 | 0.67 | 0.45 | .. |
| | 1972-73 | 2.07 | 27.60 | 32.37 | 18.26 | 9.34 | 6.23 | 1.86 | 1.86 | 0.41 | .. |
| | 1973-74 | 0.76 | 35.88 | 30.92 | 12.22 | 10.68 | 7.25 | 1.15 | 0.76 | 0.38 | .. |
| Palghat .. | 1971-72 | 0.58 | 18.73 | 29.39 | 27.09 | 12.39 | 6.92 | 2.02 | 1.15 | 1.15 | 0.58 |
| | 1972-73 | .. | 22.56 | 32.92 | 21.95 | 14.02 | 4.88 | 1.83 | 0.61 | 0.61 | 0.61 |
| | 1973-74 | 1.66 | 37.02 | 28.73 | 16.57 | 9.94 | 4.43 | .. | 1.10 | .. | 3.18 |
| Malappuram .. | 1971-72 | 1.25 | 14.98 | 24.34 | 22.28 | 17.75 | 10.45 | 3.17 | 2.51 | 1.61 | 1.63 |
| | 1972-73 | 1.48 | 22.07 | 24.74 | 21.34 | 14.23 | 7.70 | 4.74 | 1.92 | 1.48 | 0.30 |
| | 1973-74 | 1.09 | 20.65 | 28.99 | 19.20 | 14.31 | 7.97 | 4.35 | 1.45 | 1.27 | 0.72 |
| Kozhikode .. | 1971-72 | 0.87 | 26.07 | 32.15 | 21.20 | 9.16 | 5.39 | 2.38 | 1.13 | 0.50 | 0.25 |
| | 1972-73 | 1.07 | 26.51 | 29.30 | 23.18 | 9.33 | 6.87 | 2.03 | 1.61 | 0.10 | .. |
| | 1973-74 | 1.05 | 29.26 | 31.08 | 19.47 | 10.73 | 5.09 | 1.83 | 1.16 | 0.27 | 0.06 |
| Cannanore .. | 1971-72 | 0.60 | 19.01 | 29.28 | 21.80 | 13.08 | 9.50 | 3.42 | 2.17 | 0.46 | 0.48 |
| | 1972-73 | 1.55 | 36.03 | 30.56 | 16.05 | 7.97 | 4.52 | 2.50 | 0.47 | 0.12 | 0.23 |
| | 1973-74 | 0.49 | 22.68 | 31.95 | 22.41 | 10.74 | 7.10 | 2.41 | 1.22 | 0.24 | .. |

TABLE 10 (b)
 Percentage distribution of tubectomised persons according to number of living children—1971-74

| District | Year | Number of children living | | | | | | | | | | | |
|------------|---------|---------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|-----|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 10+ |
| Trivandrum | 1971-72 | 0.19 | 8.65 | 43.44 | 26.46 | 12.55 | 5.78 | 2.15 | 0.59 | 0.19 | 0.06 | 0.08 | |
| | 1972-73 | 0.35 | 13.78 | 43.53 | 24.13 | 11.48 | 4.17 | 1.82 | 0.62 | 0.06 | 0.14 | | |
| | 1973-74 | 0.23 | 17.49 | 43.49 | 21.58 | 10.83 | 3.87 | 1.65 | 0.64 | 0.14 | 0.08 | | |
| Quilon | 1971-72 | 0.69 | 14.17 | 36.50 | 24.79 | 13.42 | 6.19 | 2.69 | 0.96 | 0.51 | 0.07 | 0.07 | |
| | 1972-73 | 0.86 | 12.92 | 38.07 | 26.08 | 12.26 | 6.21 | 2.02 | 1.00 | 0.31 | 0.17 | 0.17 | |
| | 1973-74 | 1.15 | 14.55 | 37.05 | 24.80 | 12.09 | 6.00 | 2.42 | 1.18 | 0.36 | 0.40 | 0.40 | |
| Alleppey | 1971-72 | 5.40 | 16.48 | 29.66 | 22.58 | 12.55 | 7.65 | 3.57 | 1.26 | 0.49 | 0.36 | 0.36 | |
| | 1972-73 | 1.04 | 14.17 | 31.56 | 24.43 | 13.74 | 8.87 | 3.74 | 1.91 | 0.54 | 0.18 | 0.18 | |
| | 1973-74 | 0.79 | 13.54 | 31.84 | 25.59 | 14.78 | 6.77 | 4.49 | 1.67 | 0.35 | 0.18 | 0.18 | |
| Kottayam | 1971-72 | 3.81 | 9.56 | 30.58 | 25.01 | 16.84 | 10.19 | 4.71 | 1.87 | 0.55 | 0.69 | 0.69 | |
| | 1972-73 | 4.68 | 14.92 | 31.92 | 21.60 | 13.10 | 7.59 | 3.99 | 1.69 | 0.56 | 0.82 | 0.82 | |
| | 1973-74 | 4.68 | 15.80 | 33.21 | 20.04 | 12.55 | 7.28 | 3.73 | 1.54 | 0.66 | 0.51 | 0.51 | |
| Idikki | 1971-72 | 8.33 | 12.90 | 25.28 | 21.50 | 20.43 | 9.68 | 6.45 | 2.69 | 1.07 | 1.11 | 1.11 | |
| | 1972-73 | 1.49 | 12.78 | 28.33 | 19.45 | 11.11 | 12.22 | 2.22 | 2.78 | 1.61 | 1.61 | 1.61 | |
| | 1973-74 | 1.49 | 12.31 | 30.78 | 24.62 | 14.01 | 6.79 | 5.52 | 2.76 | 1.27 | 1.27 | 1.27 | |

TABLE 10 (b) (b)—(cont.)

| District | Year | Number of children living | | | | | | | | | |
|------------|---------|---------------------------|-------|-------|-------|-------|-------|------|------|------|------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Ernakulam | 1971-72 | 1.66 | 13.21 | 30.69 | 23.95 | 14.15 | 8.78 | 5.28 | 2.04 | 0.86 | 0.38 |
| | 1972-73 | 1.13 | 12.60 | 31.25 | 22.78 | 14.23 | 9.41 | 4.87 | 2.46 | 0.88 | |
| | 1973-74 | 1.27 | 16.01 | 33.02 | 23.87 | 13.53 | 6.79 | 3.31 | 1.71 | 0.27 | 0.22 |
| Trichur | 1971-72 | 2.96 | 16.90 | 27.53 | 20.16 | 13.20 | 10.74 | 4.89 | 2.17 | 0.84 | 0.61 |
| | 1972-73 | 2.18 | 14.09 | 27.24 | 24.00 | 14.86 | 10.20 | 4.13 | 1.53 | 1.18 | 0.59 |
| | 1973-74 | 2.97 | 22.77 | 25.08 | 26.40 | 9.57 | 5.62 | 5.28 | 1.98 | 0.33 | .. |
| Palghat | 1971-72 | 1.29 | 13.68 | 22.07 | 33.11 | 16.23 | 8.44 | 3.25 | 1.29 | 0.64 | 0.64 |
| | 1972-73 | 1.29 | 15.71 | 23.84 | 26.80 | 16.82 | 6.84 | 4.62 | 2.77 | 0.74 | 0.57 |
| | 1973-74 | 3.52 | 13.60 | 31.04 | 22.56 | 10.88 | 9.28 | 5.12 | 2.24 | 0.80 | 0.96 |
| Malappuram | 1971-72 | 4.02 | 14.55 | 23.71 | 20.51 | 17.02 | 9.28 | 6.04 | 2.64 | 1.24 | 0.99 |
| | 1972-73 | 4.68 | 15.47 | 21.98 | 21.08 | 15.60 | 10.79 | 5.46 | 3.25 | 1.04 | 0.65 |
| | 1973-74 | 3.14 | 13.17 | 27.60 | 22.96 | 12.30 | 9.79 | 5.77 | 3.14 | 1.38 | 0.75 |
| Kozhikode | 1971-72 | 0.24 | 10.63 | 34.81 | 26.17 | 13.58 | 8.15 | 5.43 | 0.25 | 0.74 | 0.28 |
| | 1972-73 | 0.68 | 9.88 | 31.53 | 26.35 | 14.76 | 8.41 | 4.28 | 2.67 | 0.93 | 0.33 |
| | 1973-74 | 1.02 | 12.69 | 31.67 | 25.69 | 13.98 | 8.26 | 3.87 | 1.82 | 0.67 | 0.33 |
| Cannanore | 1971-72 | 0.15 | 6.22 | 34.54 | 27.98 | 14.55 | 7.72 | 5.39 | 1.50 | 1.35 | 0.60 |
| | 1972-73 | 0.86 | 12.92 | 38.07 | 26.08 | 12.26 | 6.21 | 2.12 | 1.00 | 0.31 | 0.17 |
| | 1973-74 | 1.07 | 8.99 | 29.55 | 23.31 | 16.70 | 8.78 | 7.72 | 2.35 | 0.86 | 0.64 |

TABLE 11
Couples protected by sterilisation

| | upto 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|------------|-----------------|---------|---------|---------|---------|---------|---------|---------|
| Trivandrum | 30877 | 40498 | 51583 | 59480 | 67352 | 89568 | 93557 | 99413 |
| Quilon | 16626 | 24625 | 33050 | 40245 | 47034 | 51131 | 66410 | 75223 |
| Alleppey | 13625 | 21398 | 29447 | 37453 | 43429 | 45263 | 46475 | 48722 |
| Kottayam | 11613 | 17106 | 24077 | 29485 | 34041 | 36640 | 50156 | 53031 |
| Ernakulam | 14691 | 21898 | 31926 | 39248 | 59553 | 123719 | 139214 | 140535 |
| Trichur | 14230 | 20497 | 26466 | 30758 | 35004 | 57912 | 58817 | 63291 |
| Palghat | 9684 | 13409 | 16484 | 18994 | 20248 | 21063 | 31732 | 32062 |
| Malappuram | .. | .. | .. | .. | 1589 | 3159 | 4506 | 5955 |
| Kozhikode | .. | 22631 | 31020 | 38036 | 42051 | 46025 | 50413 | 56052 |
| Cannanore | .. | 15441 | 21841 | 25933 | 29219 | 45689 | 51310 | 53495 |
| Total | 136232 | 197503 | 265894 | 319632 | 379520 | 520169 | 592590 | 629779 |

TABLE 12
Percentage of couples protected (cumulative) by sterilisation

| | upto 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|------------|-----------------|---------|---------|---------|---------|---------|---------|---------|
| Trivandrum | 12.50 | 16.00 | 20.00 | 22.44 | 24.85 | 29.56 | 30.27 | 31.45 |
| Quilon | 6.13 | 8.92 | 11.71 | 13.97 | 16.00 | 15.83 | 20.18 | 22.56 |
| Alleppey | 5.02 | 7.78 | 10.55 | 13.18 | 15.07 | 14.41 | 14.12 | 15.13 |
| Kottayam | 4.64 | 6.70 | 9.29 | 11.16 | 12.65 | 12.54 | 15.24 | 24.92 |
| Ernakulam | 5.82 | 8.48 | 12.04 | 14.48 | 21.49 | 41.65 | 50.62 | 50.01 |
| Trichur | 5.19 | 7.32 | 9.22 | 10.49 | 11.66 | 18.56 | 18.55 | 19.53 |
| Palghat | 3.87 | 5.25 | 6.31 | 7.14 | 7.41 | 7.60 | 11.33 | 11.21 |
| Malappuram | .. | .. | .. | .. | 0.57 | 1.08 | 1.51 | 1.94 |
| Kozhikode | .. | 7.23 | 9.63 | 11.49 | 12.36 | 12.43 | 13.33 | 14.40 |
| Cannanore | .. | 4.79 | 6.59 | 7.62 | 8.34 | 12.55 | 13.79 | 14.00 |
| State | 5.08 | 7.20 | 9.47 | 11.12 | 12.91 | 16.55 | 18.50 | 19.33 |

TABLE 13
 Number of birth averted—Sterilisation

| <i>Year</i> | <i>No. of sterilisation</i> | <i>No. of births averted</i> | <i>No. of births that would be saved in future years (upto) 1997-98</i> |
|--------------|---------------------------------|--------------------------------------|---|
| (1) | (2) | (3) | (4) |
| 1957-58 | 1469 | 13 | 3725 |
| 1958-59 | 3962 | 326 | 10049 |
| 1959-60 | 6034 | 1228 | 15304 |
| 1960-61 | 5403 | 2655 | 13703 |
| 1961-62 | 6663 | 4037 | 16899 |
| 1962-63 | 8630 | 5526 | 21888 |
| 1963-64 | 15395 | 7435 | 39047 |
| 1964-65 | 27878 | 10750 | 70708 |
| 1965-66 | 39728 | 16833 | 100764 |
| 1966-67 | 40274 | 25721 | 102148 |
| 1967-68 | 65155 | 35212 | 165255 |
| 1968-69 | 73840 | 48847 | 187284 |
| 1969-70 | 60546 | 64937 | 153565 |
| 1970-71 | 68017 | 78001 | 172515 |
| 1971-72 | 151111 | 91079 | 383270 |
| 1972-73 | 86688 | 118869 | 219871 |
| 1973-74 | 50389 | 138376 | 127804 |
| Total | 711182 | 649845 | 1625698 |

**1.4 A STUDY OF THE I.U.D. ACCEPTORS IN KERALA
DURING 1966-67 AND 1967-1968**

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A STUDY OF THE I.U.D. ACCEPTORS IN KERALA DURING 1966-67 AND 1967-68

1. *Introduction.*—The family planning activities in the State began during the Second Five Year Plan. But the programme gained momentum during the Third Five Year Plan period. In the family planning clinics of the State various methods of birth control are propagated to the couples. Temporary methods are suggested to couples who need spacing of births. Permanent methods are suggested to couples who have the desired number of children and wish to avoid further pregnancies. Condom, Jelly, foam tablets and diaphragm are the important temporary methods suggested in the family planning clinics. From 1965 onwards facilities for I.U.C.D. insertion were provided in the clinics of the State.

The I.U.C.D. method has several special advantages over the other methods of birth control. The major advantage of the method is that it can be used both for spacing and limitation. Once the I.U.C.D. is inserted the woman is protected from conception as long as the device is in position. I.U.C.D. can be removed easily by a doctor if the woman wants it to be removed. Another important advantage of I.U.C.D. over the conventional contraceptives is that it does not require constant attention like other methods. In Kerala where majority of the couples live in houses without facilities for privacy, the I.U.C.D. is a facile method. Because of these advantages I.U.C.D. has gained wide popularity in the State.

In this paper it is intended to study the characteristics of women who accepted I.U.C.D. during the years 1966-67 and 1967-68.

2. *Objects of the study.*—Even though the scheme was introduced in the State five years ago, no State-wide study has so far been conducted on the characteristics of I.U.C.D. acceptors. The present study is intended to throw light on the characteristics of I.U.C.D. acceptors—Namely, their age composition, educational status, religious break-up, income and occupational distribution and fertility levels. The study may highlight the comparative popularity of the method among various socio-economic sections of the population.

3. *Source of data and limitations of the study.*—The hospital authorities record certain items of information regarding the women accepting I.U.C.D. insertion. The hospital records are to give data on the religion, educational status, monthly income, occupation and number of children living in respect of each woman accepting I.U.C.D. method. It was intended to collect these details for all I.U.C.D. acceptors in Kerala during 1966-67 and 1967-68, because in some districts the

details had not been collected at all. In some institutions where the records were maintained, all the details were not available. As such the present study could not cover all the cases. The study for the year 1966-67 does not cover any of the cases from the five districts of Ailleppey, Kottayam, Palghat, Kozhikode and Cannanore. The study for the year 1967-68 covers all the districts but not all the cases for want of details. The total number of I.U.C.D. insertions during the years and the number of cases covered in the study are given below:

| <i>Year</i> | <i>Total I.U.C.D. insertions</i> | <i>Total number covered in the study</i> | <i>Percentage coverage</i> |
|-------------|----------------------------------|--|----------------------------|
| (1) | (2) | (3) | (4) |
| 1966-67 | 40760 | 16913 | 41·5 |
| 1967-68 | 37553 | 31276 | 83·3 |

The study could take into account only 41·5 per cent of the I.U.C.D. acceptors in 1966-67 and 83·3 per cent of the I.U.C.D. acceptors in 1967-68. Even in the case of the 41·5 per cent cases during 1966-67 and 83·3 per cent cases during 1967-68, all the details are not available. The highest percentage of omissions is with regard to the item "occupation". Information on income and education is also not recorded in a large number of cases. In most cases, information is available about age and religion. The data used are thus incomplete in respect of a number of cases covered in the study. This limitation very much weakens the conclusions arrived at by the study.

It was also intended to study the followup details of I.U.C.D. cases. The followup study would give rates of expulsions, removals, re-insertions and nature of complaints. But the followup study could not be made as the requisite details were not available with the hospitals. Thus the present study confined only to the socio-economic and demographic characteristics of the I.U.C.D. acceptors.

4. *Previous studies.*—A number of studies on this topic have been conducted by various agencies inside and outside the country. In Kerala, a case study of I.U.C.D., acceptors in two hospitals in Trivandrum City was conducted by the Demographic Research Centre*. In this case study the rates of expulsions, removals, re-insertions and complaints were studied in addition to the characteristics of acceptors.

Some studies on this topic conducted in various parts of the country are those conducted by Demographic Research Centre, Delhi, Demographic Training Research Centre, Bombay and Institute of Rural Health and Family Planning, Gandhigram.

*A case study of I.U.C.D., acceptors in two Hospitals in Trivandrum City—By Dr. R. S. Kurup, P. S. Gopinathan Nair and N. V. George.

These studies are referred to for comparison in appropriate place.

5. *Age composition.*—The item of information considered first is the age of the women at the time of I.U.C.D. insertion. This item of information is available in most of the cases. The comparative popularity of I.U.C.D. among women of various age-groups is studied here.

Table I gives the distribution of women who have adopted I.U.C.D. The percentage distribution in the State of married women in 15-44 years in 1961, is also given for comparison.

TABLE I
Distribution of women who have adopted I.U.C.D. according to age

| - Age | 1966-67 | | 1967-68 | | 1961 census percentage of married women 15-44 years |
|--------------|---------|------------|---------|------------|---|
| | Number | Percentage | Number | Percentage | |
| 15-19 | 189 | 1.20 | 506 | 1.68 | 8.53 |
| 20-24 | 2445 | 15.52 | 5436 | 18.04 | 21.97 |
| 25-29 | 5014 | 31.83 | 9745 | 32.33 | 23.29 |
| 30-34 | 4326 | 27.46 | 7979 | 26.47 | 18.69 |
| 35-39 | 3022 | 19.18 | 5334 | 17.70 | 16.50 |
| 40-44 | 693 | 4.40 | 1035 | 3.43 | 11.02 |
| 45 and above | 64 | 0.41 | 105 | 0.35 | .. |
| Not recorded | 1160 | .. | 1136 | .. | .. |
| Total | 16913 | 100.00 | 31276 | 100.00 | 100.00 |

The distribution of I.U.C.D. acceptors according to age in 1966-67 and 1967-68 are almost similar except for a shift in favour of early adoption of I.U.C.D. The percentage of women adopting I.U.C.D. before 25 years has increased from 16.72 per cent in 1966-67 to 19.72 in 1967-68. The increase in percentage is upto 25-29 age group. 48.55 per cent in 1966-67 and 52.05 per cent in 1967-68 have adopted I.U.C.D. before 30 years. The model age group to which the highest percentage of I.U.C.D. acceptors belongs is 25-29 years. This result is in conformity with the case study referred to in paragraph 4. Incidentally it may be noted that the highest percentage of married women in 15-44 age group belong to this group according to 1961 census.

In studies conducted by other centres also (study conducted by D.T.R.C., Bombay, Mr. Asha Bhende, 1966 and study conducted by Central Family Planning Institute, New Delhi, Murthy, D.V.R., etc. 1967). The same model age group was noticed.

The median age of the I.U.C.D. acceptors works out 30-26 years in 1966-67 and 29.97 years in 1967-68. About 3/4th of the I.U.C.D. acceptors are from the age group 20-34 years. This shows close similarity with the study conducted by the Rural Health and Family Planning, Gandhigram (1966) according to which 80 per cent of the I.U.C.D. acceptors covered by their study belongs to the same age group. In the Lucknow study by Seghal and Pandey, M.S. (1967) it was found that 71.2 per cent of the I.U.C.D. acceptors belong to the age group of 25-35. The corresponding percentages in the present study are 78.5 for 1966-67 and 76.5 for 1967-68. According to a study conducted in Delhi (Bardwaj, K. S. 1967) 60 per cent of the I.U.C.D. acceptors belong to 15-30 age group. According to the present study the percentage belonging to the age group 15-30 is near about 50.

A comparison of the age distribution of the I.U.C.D. acceptors and married females in the child bearing age in Kerala shows that comparatively few women adopt I.U.C.D. in the early age groups of 15-24 as also in the older age group of 40-44 and above. In the quinquennial age groups 25-29, 30-34, 35-39 years the percentage of I.U.C.D. acceptors exceed those of married women in child bearing age group.

6. *Number of children living.*—The number of children living at the time of I.U.C.D. insertion is also an indicator of the timing of making the decision on the part of I.U.C.D. acceptors. Since I.U.C.D. is an easily reversible method, it can be used as a temporary method from the early years of marriage. Table 2 gives the distribution of women who have adopted I.U.C.D. according to the number of children living.

TABLE 2
Distribution of women who have adopted I.U.C.D.
according to number of children living

| No. of children living | 1966-67 | | 1967-68 | |
|------------------------|---------|------------|---------|------------|
| | Number | Percentage | Number | Percentage |
| 0 | 10 | 0.08 | 6 | 0.02 |
| 1 | 649 | 5.03 | 1562 | 6.35 |
| 2 | 2160 | 16.74 | 4688 | 19.06 |
| 3 | 2966 | 22.99 | 6119 | 24.88 |
| 4 | 2601 | 20.16 | 5066 | 20.60 |
| 5 | 1941 | 15.04 | 3393 | 13.80 |
| 6 | 1273 | 9.87 | 2011 | 8.18 |
| 7 | 740 | 5.74 | 1037 | 4.22 |
| 8 | 354 | 2.74 | 450 | 1.83 |
| 9 | 126 | 0.98 | 178 | 0.72 |
| 10 | 53 | 0.41 | 60 | 0.24 |
| Above 10 | 28 | 0.22 | 25 | 0.10 |
| Not recorded | 4012 | .. | 6681 | .. |
| Total | 16913 | 100.00 | 31276 | 100.00 |

The average number of children living to I.U.C.D. acceptors is 3·98 in 1966-67 and 3·74 in 1967-68.

The percentage of I.U.C.D. adopters who have 3 or less children is 44·84 in 1966-67 and 50·31 in 1967-68. The trend in favour of early adoption of I.U.C.D. noticed in the previous section is seen here also. According to the study in D.T.R.C., Bombay (Mohanty and Rao S.L.N. 1967) 60 per cent of the women who had adopted I.U.C.D. had three or fewer children. Thus the Kerala women adopt I.U.C.D. after a comparatively larger number of children are born. But compared to the studies in Najafgarh (Bhandari Vinod 1967) and Lucknow (Seghal B.S. and Pandey M.S. 1967) have shown that Kerala women adopt I.U.C.D. earlier. According to the first study 27·3 per cent had 1-3 children and according to the second study 81·9 per cent had three or more children.

Only very few adopt I.U.C.D. when they have one child or when they have no children. About 20 per cent adopt it when they have 2 children. About the same percentage adopt I.U.C.D. when they have 3 or 4 children. The percentage decreases in the higher parities. The women with more than 5 children, would naturally prefer a method for family limitation. Though to a lesser extent, the method is adopted by women having 6 or more children. These women required a method for limitation and not for spacing. The reasons for their preferring I.U.C.D. rather than P.P.S. which is more suitable for permanent control are to be investigated. It may be that the motivators are not discriminative in persuading women of higher parity to permanent method of family limitation.

7. *Religion.*—There is a general notion that the family planning methods are not favoured to the same extent by all religious groups. Some religious groups may have their sentimental objections to birth control methods. The comparative popularity of I.U.C.D. among different religious groups is proposed to be examined in this section. Table 3 gives the distribution of women who have adopted I.U.C.D. according to religion.

TABLE 3
Distribution of women who have adopted I.U.C.D.
according to religion

| Religion | 1966-67 | | 1967-68 | |
|--------------|--------------|---------------|--------------|---------------|
| | Number | Percentage | Number | Percentage |
| Hindu | 9089 | 73·16 | 19258 | 73·73 |
| Christian | 2839 | 22·85 | 4933 | 18·89 |
| Muslim | 484 | 3·90 | 1929 | 7·38 |
| Others | 11 | 0·09 | .. | .. |
| Not recorded | 4490 | .. | 5156 | .. |
| Total | <u>16913</u> | <u>100·00</u> | <u>31276</u> | <u>100·00</u> |

In 1966-67 and 1967-68 the percentage of Hindus among I.U.C.D acceptors is almost same. The percentage of Christians is a little less in 1967-68, while the percentage of Muslims is high. This may be mainly due to the difference in spatial coverage during the two years. In 1966-67 the Districts of Palghat, Kozhikode and Cannanore, which have a higher percentage of Muslims and a lesser percentage of Christians were excluded from the study. In 1967-68 all Districts of the State were included in the study and hence the data for 1967-68 give a more realistic picture. According to 1961 census, there are 60.83 per cent Hindus, 21.22 per cent Christians and 17.91 Muslims in Kerala. A comparison with the distribution of I.U.C.D. acceptors shows that I.U.C.D. is comparatively more popular among Hindus. The popularity of the method among Christians also cannot be said to be very bad. But among Muslims the method has yet to gain popularity. Against 18 per cent Muslims in the general population, the percentage of Muslims among I.U.C.D. acceptors is only 7. Efforts are therefore necessary to make the method popular among Muslims also.

8. *Educational status.*—Like religion, education is also another relevant factor which influence the acceptance of I.U.C.D. But information is not available in a large number of cases. The percentage of cases about which information on education is not available is as high as 75 in 1966-67 and 58 in 1967-68. The available details are presented in the following table:

TABLE 4

Distribution of women who have adopted I.U.C.D. according to educational status

| <i>Educational status</i> | 1966-67 | | 1967-68 | |
|----------------------------|---------------|-------------------|---------------|-------------------|
| | <i>Number</i> | <i>Percentage</i> | <i>Number</i> | <i>Percentage</i> |
| Illiterate | 928 | 21.89 | 3010 | 22.83 |
| Literate below primary | 2307 | 54.41 | 5901 | 44.76 |
| Above primary below middle | 530 | 12.50 | 2852 | 21.63 |
| Above middle below matric | 166 | 3.91 | 662 | 5.02 |
| Matric | 250 | 5.90 | 627 | 4.76 |
| Above matric | 59 | 1.39 | 131 | 1.00 |
| Not recorded | 12673 | .. | 18093 | .. |
| Total | 16913 | 100.00 | 31276 | 100.00 |

The percentage of illiterates is almost same in 1966-67 and 1967-68. The percentage of literate women below primary standard has decreased in 1967-68 compared to 1966-67. The decrease is compensated by the increase in the category 'above primary below middle'. So also the total of the categories "above middle school" is

almost same in the two years though there is slight variations when each category is taken separately.

To study the comparative popularity of I.U.C.D. among various educational status groups, a comparison with the educational status distribution in 1961 is made. According to 1961 census, among females in 15-44 age group, 48.03 per cent are illiterate, 34.06 per cent are literate without educational level, 13.75 per cent have passed primary or junior basic and 4.16 per cent have passed matriculation and above. The above figures indicate that I.U.C.D. is comparatively more popular among the literate women. The percentage of illiterate women among I.U.C.D. acceptors is less than half the percentage of illiterate women among married females in 15-44 age group. There are comparatively higher percentage of women from the higher educational status groups among the I.U.C.D. acceptors. The above conclusions are subject to certain limitations. The very high percentage of 'not recorded' cases, considerably reduces the validity of the conclusions. It may also be noted that the comparison is made with respect to the 1961 census figures. The change in the educational status distribution of married females in 1961 and 1966-68 may be substantial. During the course of the eight years, women aged 36 and above would have passed the child bearing age; and a younger group women would have entered the child bearing age group. The younger group who have joined the child bearing group of women are naturally more educated than those who have left the child bearing group. However, it may be concluded that I.U.C.D. has not become so popular among illiterate women as among literate women. The education of the husband also affects the differential acceptance of I.U.C.D. This factor also can be considered in subsequent studies.

9. *Monthly income.*—This item is also 'not recorded' in a large number of cases. The percentage of cases on which information is not available is 63 in 1966-67 and 54 in 1967-68. Table 5 gives the details.

TABLE 5
Distribution of women who have adopted I.U.C.D. according to monthly income of the couple

| Monthly income of the couple | 1966-67 | | 1967-68 | |
|------------------------------|---------|------------|---------|------------|
| | Number | Percentage | Number | Percentage |
| Below Rs. 50 | 2060 | 33.08 | 4101 | 28.74 |
| Rs. 50-99 | 3491 | 56.06 | 8150 | 57.12 |
| " 100-149 | 409 | 6.57 | 1251 | 8.77 |
| " 150-199 | 153 | 2.46 | 437 | 3.06 |
| " 200 and above | 114 | 1.83 | 329 | 2.31 |
| Not recorded | 10686 | .. | 17008 | .. |
| Total | 16913 | 100.00 | 31276 | 100.00 |

The comparison of the distribution according to income for the two years indicates a shift in favour of higher income groups. In 1967-68 more women from the monthly income range of Rs. 50 and above adopted I.U.C.D. But in both of these years only less than 15 per cent of the I.U.C.D. acceptors come from the monthly income range of Rs. 100 and above. The financial incentive may be one reason to attract the large percentage of acceptors from the low income groups.

The conclusions drawn from the above data are also subject to serious limitations from the following reasons:—

(a) The data have been collected at the hospital level without any probing into the details furnished by the informants.

(b) The high percentage of 'not recorded' cases.

(c) No reliable data are available regarding 'the distribution of women according to income and hence no firm conclusions can be drawn about the acceptance of I.U.C.D. by women in the various income groups.

10. *Occupation.*—Data on this item are also recorded only in very few cases. Information is available for only 17.6 per cent cases in 1966-67 and 20.3 per cent cases in 1967-68. Table 6 gives the distribution of women according to occupation.

TABLE 6
Distribution of women who have adopted I.U.C.D.
according to occupation

| Occupation | 1966-67 | | 1967-68 | |
|-------------------------|--------------|---------------|--------------|---------------|
| | Number | Percentage | Number | Percentage |
| (1) | (2) | (3) | (4) | (5) |
| Agricultural Labour | 10 | 0.33 | 368 | 5.81 |
| Other unskilled work | 918 | 30.83 | 1726 | 27.25 |
| Skilled work | 42 | 1.41 | 454 | 7.17 |
| Professional work | 39 | 1.31 | 101 | 1.59 |
| Cultivators | 156 | 5.24 | 383 | 6.04 |
| Traders and businessmen | 52 | 1.75 | 119 | 1.88 |
| Clerical work | 15 | 0.50 | 73 | 1.15 |
| Others | 1233 | 41.40 | 1570 | 24.75 |
| No occupation | 513 | 17.23 | 1541 | 24.33 |
| Not recorded | 13935 | .. | 24941 | .. |
| Total | 16913 | 100.00 | 31276 | 100.00 |

Due to the high percentage of 'not recorded' cases the conclusions drawn from the distribution is of very little validity. About 17 per cent

in 1966-67 and 24 per cent in 1967-68 are recorded as having no occupation. According to 1961 census, 67.4 per cent of the women in the age group 15-34 years are non-workers' or in other words not gainfully employed. Since most of the I.U.C.D. acceptors belong to 15-34 age group, it may be seen that there is comparatively a large percentage of 'workers' or those having occupation among I.U.C.D. acceptors. During both the years a large percentage of unskilled workers like coolies have adopted I.U.C.D. The financial incentive may have attracted a large percentage of them. The occupation of the husband is another factor which influences the acceptance of I.U.C.D. Hence in the subsequent studies, the analysis of the occupational distribution of husbands of I.U.C.D. acceptors also can be attempted.

11. *Summary and conclusions.*—The study gives broad indications of the characteristics of I.U.C.D. acceptors in Kerala during 1966-67 and 1967-68.

About 80 per cent of the I.U.C.D. acceptors belong to the age group 25-39 years. I.U.C.D. is seen to be less popular in the early years of marriage and after 40 years.

About 50 per cent adopt I.U.C.D. when they have 3 or less children, living. Only very few women having less than 2 children or having more than 5 children adopt I.U.C.D.

I.U.C.D. is seen to be comparatively less popular among Muslims. Efforts are therefore necessary to intensify the propaganda among Muslims.

Illiterate women do not adopt I.U.C.D. as literate women.

The available information of I.U.C.D. acceptors is defective in many respects. All the details are recorded only in very few cases. Items like occupation, income and education are omitted in a large number of cases. A study with the complete data will be more realistic and objective.

The present study is confined to the demographic and socio-economic characteristics of I.U.C.D. acceptors. If follow up visits are conducted regularly and details of expulsion, removal and complications are analysed, the data could be made use of for conducting studies, the results of which may be useful for these engaged in the implementation of the programme.

1.5 THE DEMOGRAPHIC CHARACTERISTICS OF I.U.D. ADOPTERS IN KERALA—1970-71

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THE DEMOGRAPHIC CHARACTERISTICS OF I.U.D. ADOPTERS IN KERALA 1970-71

1. This report deals with the demographic particulars of I.U.D. acceptors in Kerala during the year 1970-71. The present study is the fourth one in its series issued by the Demographic Research Centre of this Bureau. Out of 30,584 I.U.D. acceptors reported during the year, the present study could cover only 19,845 cases representing 64.8 per cent of the total number.

2. An examination of the total number of acceptors over the previous years from 1966-67, presented in Table (1) appended, shows that there has been a substantial drop in the number of adopters in 1970-71 as compared to the earlier years. The reason for this cannot be specifically located in the absence of relevant data. It may be due to one or more of the several factors like (i) declining influence of the programme over the masses, (ii) tardy implementation of the programme, (iii) under reporting of the number of acceptors, etc.

3. The median age group of the I.U.D. adopters in the year 1970-71 is found to be 25-29 years. This age group alone covers nearly one-third of the total number of adopters. As much as 40 per cent of the adopters are reported in the higher age groups of 30 and above. The figures may be seen in Table (2).

4. The percentage distribution of I.U.D. adopters according to age is given in Table (2) for the annual periods from 1966-67 to 1970-71. The percentage of acceptors in the age group 15-24 years has increased over these years from 16.2 per cent to 27.3 per cent. A similar trend is noticed in the age group of 25-29 also. The percentage of acceptors in the age group of 30-34 shows a decreasing trend from 27.5 per cent in 1966-67 to 24.5 per cent in 1970-71. These variations have resulted in the shifting of the median age-group from 30-34 in 1966-67 to 25-29 in 1970-71. This change is revealing and interesting. Further the acceptors of I.U.D. and sterilization below 30 years of age goes up steadily. But an inverse relation is perceptible in cases of above 30 years of age (Table 2A appended). This shift in the age pattern can be attributed to the subjective aspects of changes imbibed in the society in general during these periods. Changes to attitudes, values and behaviours are more readily effected as changes are achieved in the social milieu.*

5. According to 1971 census, 59 per cent of the population of Kerala are Hindus, 21 per cent are Christians and 19.5 per cent are

* Philip M. Hanser—A Sociological perspective in family planning programme
—East-west Population Institute—Reprint No. 44.

Muslims. Those in the religious composition of the I.U.D. adopters, Hindus are over represented while the other two religious groups under represented. It may be noted the figures for the period from 1966-71 presented in Table 3, show that there is an increasing trend in the percentage of acceptors among the Hindus; while the trend is rather declining in respect of acceptors in other two religious groups.

6. Education of couples play an important role in them decision for family limitation and the method therefor. 22 per cent of the standard. This indicates that the literates but below matric standard had favoured I.U.D. adoption for family planning. 13 per cent of their husbands were illiterates 77.5 per cent of them were below matric standard, and 9.3 per cent were above matric standard. There was no change from this pattern in the preceding years also (Table 4). The educational attainment of I.U.D. adopters 1966-71 is given in Table 6.

7. Nearly 41 per cent of the I.U.D. adopters had not reported their income either because of their ignorance about their husband's income or because of their reluctance to disclose their family income. The tendency to project an income far below that of their actual income seems to be strong among the I.U.D. adopters. Nevertheless, the income data are useful to arrive at some general conclusions. For instance, we can say that only a small percentage of I.U.D. adopters were drawn from a higher income group and only women from low income category came forward for I.U.D. Only 1.8 per cent of the I.U.D. adopters reported a monthly income of above Rs. 200 in 1966-67. But the percentage has increased to 3.1 per cent in 1970-71 (Table 6).

8. Sixty-three per cent of the I.U.D. adopters of 1970-71 period have practically no occupation at all. 25.4 per cent of them are unskilled workers and the remaining 11.3 per cent spread to various occupation. Since most of the I.U.D. adopters were self employed in their own household duties they were reported as persons with no occupation. But 58 per cent of their husbands were unskilled workers, 15 per cent of them were agriculturists and 6.3 per cent of them were cultivators and 6 per cent were traders and businessmen. Skilled workers formed only 4 per cent (Table 7).

9. Sixty per cent of the I.U.D. adopters have 3 children born at the time of I.U.D. adoption.

10. Sixty-eight per cent of the I.U.D. acceptors have 3 children living at the time of I.U.D. adoption. 9.7 per cent of them have only one child. On the other extreme, 0.05 per cent of the adopters report more than 10 children living at the time of I.U.D. adoptions (Table 8).

11. During 1966-67 period only 45 per cent of the I.U.D. adopters had a maximum of 3 children at the time of their acceptance. But

this proportion increased to 69 per cent in 1970-71. The percentage of I.U.D. acceptors with only one child had increased from 5 per cent in 1966-67 to 9.7 per cent in 1970-71 (Table 9).

12. According to an estimate of the department of family planning, Government of India, an average of 0.7 children over 5 years per I.U.D. insertion will be saved. Based on this estimate, 61,992 births will be saved over next five years by 30,584 I.U.D. insertions done in 1970-71 period.

TABLE 1
Number of I.U.D. adopters in Kerala during the period
from 1966-67 to 1970-71

| Year | Total No. of I.U.D. adopters | No. of adopters covered for the study of demogra- phic characteristics | Percentage of number covered to the total |
|---------|---------------------------------|---|---|
| (1) | (2) | (3) | (4) |
| 1966-67 | 40760 | 16913 | 41.3 |
| 1967-68 | 37553 | 31276 | 83.3 |
| 1968-69 | 36065 | 30006 | 83.0 |
| 1969-70 | 37708 | 35735 | 95.0 |
| 1970-71 | 30584 | 19845 | 64.8 |

TABLE 2
Age composition of I.U.D. adopters from 1966-67 to 1970-71

| Age group | No. of I.U.D. adopters 1970-71 | Percentage of I.U.D. adopters | | | | |
|---------------------------|--------------------------------------|-------------------------------|---------|---------|---------|---------|
| | | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15-19 | 523 | 1.20 | 1.68 | 1.97 | 2.46 | 2.76 |
| 20-24 | 4652 | 15.52 | 18.04 | 20.75 | 22.09 | 24.55 |
| 25-29 | 6276 | 31.83 | 32.33 | 33.65 | 31.23 | 33.13 |
| 30-34 | 4635 | 27.46 | 26.47 | 24.86 | 25.13 | 24.46 |
| 35-39 | 2434 | 19.18 | 17.70 | 15.70 | 15.75 | 12.85 |
| 40-44 | 393 | 4.40 | 3.43 | 2.78 | 3.04 | 2.08 |
| 45 and above | 33 | 0.41 | 0.35 | 0.29 | 0.31 | 0.17 |
| Not recorded | 899 | .. | .. | .. | .. | .. |
| Total | 19845 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number of I.U.D. adopters | .. | 31276 | 16913 | 30006 | 35735 | .. |

TABLE 2 A
Percentage distribution of acceptors of I.U.D. and Sterilisation from 1967-68 to 1970-71

| Periods | Acceptors below 30 years of age at the time of acceptance | | | | | | Acceptors above 30 years of age at the time of acceptance | | | | | | | | |
|-------------------------|---|---------|---------|---------|---------|---------|---|---------|---------|---------|---------|---------|---------|---------|---------|
| | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 7 | 8 | 9 | 10 | 11 |
| I.U.D. | 48.13 | 52.00 | 55.78 | 55.78 | 60.44 | 52.00 | 48.00 | 44.00 | 44.00 | 44.00 | 52.00 | 48.00 | 44.00 | 44.00 | 39.56 |
| Sterilisation (females) | 44.5 | 49.6 | 49.6 | 53.9 | 56.16 | 56.00 | 50.00 | 50.00 | 46.00 | 43.84 | 56.00 | 50.00 | 50.00 | 46.00 | 43.84 |

I.U.D. 12 per cent increase below 30 years and 12 per cent decrease above 30 years.
 Sterilisation 12 per cent increase below 30 years, 12 per cent decrease down 30 years.
 Note:—The acceptors of I.U.D. and Sterilisation below 30 years of age shows a steady increase during 1966-71 period are inverse relation is seen among the acceptors of above 30 years.

TABLE 3
Distribution of I.U.D. adopters according to religion 1966-67 to 1970-71

| Religion | Percentage of I.U.D. adopters | | | | | | | | | | | No. of I.U.D. acceptors in 1970-71 |
|----------|-------------------------------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|------------------------------------|
| | 1966-67 | | 1967-68 | | 1968-69 | | 1969-70 | | 1970-71 | | 1970-71 | |
| | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | | |
| 1 | 78.16 | 73.73 | 73.73 | 76.29 | 77.88 | 78.28 | 77.88 | 78.28 | 77.88 | 78.28 | 13574 | |
| 2 | 22.85 | 18.99 | 18.99 | 14.84 | 16.35 | 13.75 | 16.35 | 13.75 | 16.35 | 13.75 | 2384 | |
| 3 | 3.90 | 7.38 | 7.38 | 5.87 | 5.77 | 7.97 | 5.77 | 7.97 | 5.77 | 7.97 | 1382 | |
| 4 | 0.09 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 17840 | |

@—Paper No. 64. *—Paper No. 69. @—Paper No. 76.

TABLE 4

Distribution of I.U.D. adopters and their husbands according to educational standard 1970-71

| Educational attainment | No. of females | Percentage | |
|-----------------------------------|----------------|---------------|---------------|
| | | Wife | Husband |
| Illiterates .. | 1555 | 21.94 | 13.20 |
| Literates below Primary .. | 2728 | 38.49 | 37.17 |
| Above Primary and below middle .. | 1790 | 25.25 | 30.86 |
| Above middle and below matric .. | 521 | 7.35 | 9.44 |
| Matric and above .. | 494 | 6.97 | 9.33 |
| Not recorded .. | .. | .. | .. |
| Total .. | 7088 | 100.00 | 100.00 |

TABLE 5

Percentage distribution of I.U.D. adopters according to educational attainment from 1965-67 to 1970-71

| Educational attainment | Percentage | | | | |
|------------------------------|---------------|---------------|---------------|---------------|---------------|
| | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 |
| Illiterate .. | 21.9 | 22.8 | 31.1 | 28.0 | 21.94 |
| Literate but below matric .. | 70.8 | 71.4 | 63.5 | 66.6 | 71.09 |
| Matric and above .. | 7.3 | 5.8 | 5.4 | 5.4 | 6.97 |
| Total .. | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Census Data 1970-71

| Educational standard | Male per cent | Female per cent | Total per cent |
|----------------------|---------------|-----------------|----------------|
| Illiterate .. | 33.88 | 45.67 | 39.58 |
| Literate .. | 19.84 | 17.44 | 18.63 |
| Basic upto middle .. | 39.31 | 32.22 | 35.74 |
| Matric and above .. | 7.47 | 4.65 | 6.05 |
| Total .. | 100.00 | 100.00 | 100.00 |

TABLE 6

Distribution of I.U.D. adopters according to monthly income of the couples 1966-71

| Monthly income | Percentage of I.U.D. adopters | | | | | I.U.D. adopters in |
|----------------------|-------------------------------|---------|---------|---------|---------|--------------------|
| | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1970-71 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Below Rs. 50 .. | 33.08 | 28.74 | 24.29 | 15.80 | 21.45 | 2508 |
| Rs. 50—99 .. | 56.06 | 57.12 | 61.83 | 65.97 | 59.91 | 7006 |
| Rs. 100—149 .. | 6.57 | 8.77 | 9.79 | 11.22 | 9.89 | 1156 |
| Rs. 150—199 .. | 2.46 | 3.06 | 2.12 | 3.91 | 5.57 | 651 |
| Rs. 200 and above .. | 1.83 | 2.31 | 1.97 | 3.11 | 3.18 | 373 |
| Total .. | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 19845 |

TABLE 7

Distribution of I.U.D. acceptors and their husbands according to occupation 1969-70

| Occupation | Husbands of I.U.D. adopters | Percentage | I.U.D. adopters | Percentage |
|----------------------------|-----------------------------|------------|-----------------|------------|
| (1) | (2) | (3) | (4) | (5) |
| Agricultural labourers .. | 1163 | 15.14 | 365 | 2.82 |
| Skilled workers .. | 293 | 4.05 | 261 | 2.02 |
| Unskilled workers .. | 4216 | 57.79 | 3287 | 25.41 |
| Cultivators .. | 463 | 6.35 | 249 | 1.93 |
| Professional workers .. | 227 | 3.11 | 155 | 1.20 |
| Traders and businessmen .. | 453 | 6.21 | 164 | 1.27 |
| Clerical workers .. | 111 | 1.53 | 62 | 0.48 |
| Others .. | 215 | 2.94 | 173 | 1.34 |
| No occupation .. | 155 | 2.12 | 8218 | 63.55 |
| Not recorded .. | 12549 | .. | 6911 | .. |
| Total .. | 19845 | 100.00 | 19845 | 100.00 |

TABLE 8

Distribution of women who have accepted I.U.D. according to number of children born and living at the time of I.U.D. adoption (1970-71)

| No. of children | Born | | Living | |
|-----------------|-----------------|------------|-----------------|------------|
| | No. of children | Percentage | No. of children | Percentage |
| (1) | (2) | (3) | (4) | (5) |
| 1 | 1145 | 10.48 | 1678 | 9.73 |
| 2 | 2659 | 24.34 | 4881 | 28.32 |
| 3 | 2778 | 25.43 | 4916 | 28.52 |
| 4 | 1968 | 18.01 | 2937 | 17.04 |
| 5 | 1183 | 10.83 | 1375 | 7.98 |
| 6 | 664 | 6.08 | 781 | 4.58 |
| 7 | 300 | 2.75 | 339 | 1.97 |
| 8 | 143 | 1.31 | 196 | 1.14 |
| 9 | 52 | 0.47 | 83 | 0.51 |
| 10 | 10 | 0.10 | 37 | 0.21 |
| Above 10 | 22 | 0.20 | 9 | 0.05 |
| Not recorded | 8919 | .. | 2608 | .. |
| Total | 19845 | 100.00 | 19845 | 100.00 |

TABLE 9

Percentage distribution of the I.U.D. adopters having 3 or less than 3 children living and those having one child at the time of acceptance

| Period of I.U.D. adoption | Percentage of I.U.D. adopters with 3 or less than 3 children living at the time of I.U.D. adoption | Percentage of I.U.D. adopters with one child living |
|---------------------------|--|---|
| (1) | (2) | (3) |
| 1966-67 | 44.84 | 5.0 |
| 1967-68 | 50.31 | 6.4 |
| 1968-69 | 60.19 | 8.0 |
| 1969-70 | 61.82 | 9.0 |
| 1970-71 | 68.50 | 9.7 |

RECENT TRENDS IN THE I. U. C. D. ACCEPTANCE IN KERALA

Introduction.—Among the various methods of preventing births offered to the public, under the Indian Family Planning Programme, the I.U.C.D (or what is commonly known as loop) has a unique place. This is because of its capability to prevent births for quite a long period, without, repetitive use as in the case of conventional contraceptives or permanently stopping births as in the case of sterilisation. Hence, it is ideally suited for the newly weds, who would like to have their first baby after an year or two and for those who require proper spacing, after their first or second child. In spite of these advantages, the acceptance of this method has not been one of steady rise in the State, probably because of reported side effects. The method was introduced in the middle of 1965. After an initial spurt in the total number of acceptors, there has been a decline in acceptance during the years that followed.

2. *Objective of the study.*—This paper attempts to study the characteristics of the I.U.C.D. acceptors in the State and in the districts in respect of their religion, age, educational status, occupation, income and the number of children living at the time of insertion. Also the variations in these characteristics in the districts has been analysed. The demographic effect of I.U.C.D. insertions done is also briefly indicated.

3. *Source of the data and limitations.*—The data collected by the hospital authorities are taken for analysis. There are nearly 473 medical institutions in the State providing facilities for I.U.C.D. insertions. These include Government hospitals, Primary Health Centres and private hospitals. The data in respect of each acceptor are recorded in the registers maintained by the institutions concerned. These recorded data are copied by the statistical staff attached to the District Statistical Offices.

The records of the primary institutions show that all items of information, in respect of each acceptor, are not often recorded. The actual performance and the number for which data have been obtained and analysed for each of the three years are given below. This shows the extent of non-coverage.

| <i>Year</i> | <i>Total performance (No. of I.U.C.D. insertions)</i> | <i>No. for which data have been collected</i> |
|-------------|---|---|
| 1971-72 | 18167 | 10979 |
| 1972-73 | 21444 | 15777 |
| 1973-74 | 21703 | 18281 |

Thus the data are incomplete. The items of information to the extent they are recorded in the hospitals, are taken for the present study.

4. *Characteristics of I.U.C.D. acceptors—(i) Age composition.*—The age at which a woman prefers to accept I.U.C.D. is an important factor for assessing the success of the programme. If more females in the young age-groups and low parities accept I.U.C.D. insertion, more births will be averted. The percentage distribution of I.U.C.D. acceptors according to age during the period 1966-67 to 1973-74 is given in Table 1 in appendix. A gradual increase of acceptors of younger age is noticed. The highest percentage of acceptors is in the age-group 25-29 years. The percentage of acceptors below age 30 has increased from 49 to 64 as can be seen from the table given below:

TABLE 1

Percentage distribution of I.U.C.D. acceptors aged below 30

| <i>Years</i> | <i>Percentage of females aged below 30</i> |
|--------------|--|
| 1966-67 | 48.63 |
| 1967-68 | 52.00 |
| 1968-69 | 56.37 |
| 1969-70 | 55.77 |
| 1970-71 | 60.44 |
| 1971-72 | 61.69 |
| 1972-73 | 61.79 |
| 1973-74 | 64.04 |

The percentage of acceptors below 30 years of age has increased from 49 in 1966-67 to 64 in 1973-74. This means that more and more young females are willing to postpone the next births. They consider the loop as an ideal method for spacing births. The trend in the median age of acceptors over the years can be seen from the following table:—

TABLE 2

Median age of acceptors—1966-67 to 1973-74

| <i>Year</i> | <i>Median age</i> |
|-------------|-------------------|
| 1966-67 | 30.26 |
| 1967-68 | 29.66 |
| 1968-69 | 29.15 |
| 1969-70 | 29.08 |
| 1970-71 | 28.42 |
| 1971-72 | 28.20 |
| 1972-73 | 28.08 |
| 1973-74 | 27.85 |

It is seen that the median age of acceptors is steadily declining during this period. The median age of acceptors in 1966-67 was 30.26; it declined to 27.85 in 1973-74.

(vi) *Religion*.—The religious composition of the acceptors shows that among the major religious communities in the State, Hindu predominates among I.U.C.D. acceptors. Their proportion among the acceptors is more than their proportion in the general population.

The percentage distribution of I.U.C.D. acceptors according to religion is given below:

TABLE 3
Percentage distribution of I.U.C.D. acceptors
according to religion

| Year | Religion | | | Total |
|---------------------------|----------|------------|---------|-------|
| | Hindus | Christians | Muslims | |
| (1) | (2) | (3) | (4) | (5) |
| Proportion in 1971 Census | 59.42 | 21.06 | 19.52 | 100 |
| 1963-67 | 73.16 | 22.85 | 3.99 | 100 |
| 1967-68 | 73.73 | 18.89 | 7.38 | 100 |
| 1968-69 | 76.29 | 14.84 | 8.87 | 100 |
| 1969-70 | 77.88 | 16.35 | 5.77 | 100 |
| 1970-71 | 78.28 | 13.76 | 7.97 | 100 |
| 1971-72 | 73.59 | 17.76 | 8.65 | 100 |
| 1972-73 | 69.52 | 22.36 | 8.12 | 100 |
| 1973-74 | 70.86 | 21.00 | 8.14 | 100 |

The percentage of acceptors among the Muslim community has slightly increased over the years. Among the Muslims this method has yet to gain popularity. Against 19.50 per cent of the Muslims in the general population, the percentage of Muslims among the I.U.C.D. adoptors is below 9. Efforts are necessary to make the method more popular among the Muslim community.

(vii) *Education*.—The distribution of I.U.C.D. acceptors and their husbands according to the level of education is given in Table 2 in appendix. The percentage of illiterates among the acceptors is low compared to their share in the general population. Among the acceptors the highest percentage belong to the category of people with the educational level of below primary and above primary but below middle. The percentage of acceptors having higher educational level e.g., metric and above is increasing

(iv) *Occupation*.—The percentage distribution of I.U.C.D. acceptors according to the economic activities is given in Table 3 in appendix. The occupation of a large percentage of acceptors is recorded either as 'unskilled workers or no occupation'.

(v) *Income*.—The percentage distribution of I.U.C.D. acceptors according to monthly income is given in Table 4 in appendix. About 80 per cent of the females who accepted I.U.C.D. belong to the income group of less than Rs. 100 per month. People having higher income, seen to be reluctant to accept the loop. The percentage of acceptors above the income group of Rs. 200 is showing increasing trend during these years.

(vi) *Number of living children*.—The number of living children at the time of acceptance of I.U.C.D. is an indicator of the effectiveness of the programme. Besides the low age group of acceptors, their low parity is also an important factor in determining the number of births that can be averted. The following table gives the percentage distribution of females who had accepted I.U.C.D. when they had one child, two and three children, and also less than 3 living children:—

TABLE 4
Percentage of females having one, two, three and less than three living children at the time of insertion

| Year | Number of children at the time of acceptance | | |
|---------|--|--------------|----------------------------|
| | One child | Two children | 3 and less than 3 children |
| 1966-67 | 5.03 | 16.74 | 44.84 |
| 1967-68 | 6.35 | 19.06 | 50.31 |
| 1968-69 | 7.99 | 24.77 | 60.19 |
| 1969-70 | 9.04 | 25.61 | 61.82 |
| 1970-71 | 9.73 | 28.32 | 66.57 |
| 1971-72 | 11.47 | 28.55 | 66.29 |
| 1972-73 | 13.49 | 29.30 | 68.30 |
| 1973-74 | 13.59 | 30.10 | 68.66 |

The percentages of women having one, two and three and less than three living children, are steadily increasing. During the period 1973-74 more than 68.7 per cent of the acceptors had 3 or less than 3 living children at the time of I.U.C.D. insertion. This means that more females with fewer number of living children prefer to postpone the next birth by inserting I.U.C.D. The percentage of females according to the number of living children at the time of I.U.C.D. insertion is given in Table 5 in appendix.

III. Inter-district variation in the characteristics of I.U.C.D. acceptors

An attempt is made in this section to analyse inter-district variations in some of the important characteristics of I.U.C.D. acceptors like, age, religion and number of living children at the time of acceptance for the period 1971-72 to 1973-74.

(i) *Age composition.*—The age distribution of the acceptors in various districts for the period 1971-72 to 1973-74 is given in Table 6 in appendix. The percentage distribution of females who had accepted I.U.C.D. before age 30, in the districts is given below:

TABLE 5
Percentage distribution of acceptors aged below 30 years—Districts

| Districts | Percentage of acceptors aged below 30 |
|------------|---------------------------------------|
| Trivandrum | 65.19 |
| Quilon | 51.77 |
| Alleppey | 62.89 |
| Kottayam | 68.44 |
| Idikki | 69.21 |
| Ernakulam | 54.12 |
| Trichur | 54.43 |
| Palghat | 69.22 |
| Malappuram | 56.57 |
| Kozhikode | 69.65 |
| Cannanore | 61.55 |

More than 65 per cent of the acceptors are below 30 years in the Districts of Trivandrum, Kottayam, Idikki, Palghat and Kozhikode. The Districts of Kottayam and Idikki as well as Kozhikode and Palghat seem to be better in respect of acceptor's age. In the Districts of Quilon, Ernakulam, Trichur and Malappuram the percentage of acceptors below the age 30 years is less than 60. The highest percentage of acceptors is from 25-29 age group in all districts except Kottayam and Idikki where it is from 20-24 age group.

(ii) *Religious composition.*—The percentage distribution of acceptors according to religion is given in Table 7 in appendix. Among the acceptors, the percentage of Hindus is much higher than their respective strength in the general population. In the districts of Alleppey, Palghat Malappuram and Kozhikode the proportion of X'ians among the acceptors is higher than their population proportion. The percentage of Christians among the acceptors in Alleppey, Kottayam, Idikki and Ernakulam is higher than that in other districts. The percentage of

acceptors from the Muslim community is lower than their percentage in the general population. Hence a more effective propaganda is necessary to create a favourable attitude among Muslims to accept family planning method.

(iii) *Number of living children.*—The percentage of acceptors according to number of living children at the time of I.U.C.D. insertion in various districts is given in Table 8, in appendix. The percentages of acceptors having one, two, three and less than three living children at the time of I.U.C.D. insertion are shown below:

TABLE 6

Distribution of I.U.C.D. acceptors according to one, two and three and less than three living children at the time of I.U.C.D. insertions—Districts—1971-72 to 1973-74

| <i>Districts</i> | <i>1 child</i> | <i>2 children</i> | <i>3 and less than 3 children</i> |
|------------------|----------------|-------------------|---------------------------------------|
| (1) | (2) | (3) | (4) |
| Trivandrum .. | 10.83 | 35.87 | 77.29 |
| Quilon .. | 15.09 | 30.26 | 69.70 |
| Alleppey .. | 14.19 | 29.15 | 68.31 |
| Kottayam .. | 16.34 | 30.70 | 69.42 |
| Idikki .. | 12.11 | 27.43 | 63.67 |
| Ernakulam .. | 15.52 | 33.64 | 72.25 |
| Trichur .. | 8.61 | 23.97 | 58.64 |
| Palghat .. | 10.39 | 27.94 | 62.71 |
| Malappuram .. | 10.51 | 20.23 | 52.34 |
| Kozhikode .. | 14.37 | 28.57 | 66.59 |
| Cannanore .. | 9.55 | 22.86 | 56.62 |

In Trivandrum District 77 per cent of the acceptors had 3 or less than 3 living children at the time of I.U.C.D. insertion. In all districts except Trichur, Malappuram and Cannanore, more than 60 per cent of acceptors had 3 or less than 3 living children at the time of accepting I.U.C.D. In the Districts of Quilon and Ernakulam more than 15 per cent of the I.U.C.D. acceptors had one living child at the time of acceptance. In Trivandrum District 36 per cent of the acceptors had two living children at the time of insertion.

The average number of children living to acceptors in districts is given below:

TABLE 7

**Average number of children living to acceptors—
Districts—1971-1972 to 1973-1974**

| <i>Districts</i> | | <i>Average No. of living children</i> |
|------------------|----|---------------------------------------|
| Trivandrum | .. | 2.76 |
| Quilon | .. | 2.90 |
| Alleppey | .. | 2.97 |
| Kottayam | .. | 2.91 |
| Idikki | .. | 3.15 |
| Ernakulam | .. | 2.85 |
| Trichur | .. | 3.35 |
| Palghat | .. | 3.14 |
| Malappuram | .. | 3.49 |
| Kozhikode | .. | 3.00 |
| Cannanore | .. | 3.57 |

The average number of living children to an acceptor in Trivandrum, Quilon, Alleppey and Kottayam Districts is below 3 while in other districts above 3. In Cannanore average number of living children to an acceptor is 3.57. Even the idea of spacing of children for which I.U.C.D. is adopted, is taken to a late stage by the people in the northern districts.

IV. Demographic impact of the programme

The ultimate objective of the Family Planning Programme in the country is to reduce the birth rate. The objective of the Government of India is to reduce the birth rate of the country from 39 per 1,000 of population in 1970 to 30 by 1979 and to 25 by 1984. For this purpose 33 to 45 percent of the reproductive couples will have to be protected against the risk of conception during this period.* The number of females protected through the method under study will measure the success of the particular method. Some of the indication assessing the demograph impact of the I.U.C.D. Programme will be (i) number of I.U.C.D. acceptors per 1,000 females population (ii) percentage of eligible couples in the age group 15-44 protected by I.U.C.D. against the risk of conception and (iii) the number of births averted by the method.

*K.C. Seal. The Family Planning Programme in India's Population in India's Development 1947-2000 IASP-Delhi. P. 381

(a) *Rate per 1000 female population.*—Appendix Table 9 gives the distribution of I.U.C.D. insertion per 1,000 female population in the districts of Kerala during the period 1967-68 to 1973-74. The number of I.U.C.D. adopters varies from district to district. In all the districts a rising trend is seen during the period 1968 to 1971. Thereafter the number of I.U.C.D. adopters is diminishing. Because of the mass vasectomy camps organised in the districts during the period 1971-72 the performance of other programmes was at a low obb. In the Districts of Malappuram, Kozhikode and Cannanore the acceptance rate of I.U.C.D. is particularly low. In the Districts of Trivandrum, Quilon and Alleppey the I.U.C.D. seems to be more popular.

In Appendix Table 10, the number of couples accepting I.U.C.D. per 1,000 eligible couples is given. The table reveals that during the period 1967-68 nearly 14 persons used I.U.C.D. and this rate declined to 6 in 1973-74.

(b) *Number and percentage of couples protected.*—Percentage of acceptors protected (cumulative) by I.U.C.D. programme since its inception in 1965 is given in Appendix Table 11. By the end of 1973-74, out of a total of 32.57 lakhs of eligible couples in the reproductive age groups 15-49, 0.68 lakh were protected by I.U.C.D. The number of couples protected by I.U.C.D. insertion is more in the Districts of Trivandrum, Quilon and Alleppey than the other districts.

(c) *Number of births saved.*—The number of births saved by I.U.C.D. acceptance will give a quantitative assessment of the impact of the programme. The calculation is done by applying the norm of the number of births averted by one I.U.C.D. insertion arrived at by Kurup R. S.⁽¹⁾ as far as Kerala is concerned. As a result of the I.U.C.D. insertion up to March 1974 since inception of the programme a total of 199,360 births will eventually be averted by 1984-85.

The table given below shows the number of acceptors and the number of births saved during each year as a result of the current year performance as well as the carry over effect of the previous years the number of births that would be saved till the year 1984-85 by the I.U.C.D. insertions done up to March 1974. Since its inception, the rate of 0.71 per insertion over a period of 11 years, is also given.

(1) Kurup R.S., A note on the calculation of births averted due to family planning in Kerala—Paper 78. D.R.C., Trivandrum.

TABLE 8

No. of acceptors and No. of births saved during the period and the number of births that would be saved till the year 1984-85 by this programme

| <i>Year</i> | <i>No. of I.U.C.D. acceptors</i> | <i>No. of births saved during the year</i> | <i>No. of births that would be saved in future years</i> |
|--------------|----------------------------------|--|--|
| 1965-66 | 34,812 | 233 | 24,894 |
| 1966-67 | 40,760 | 5,563 | 29,947 |
| 1967-68 | 37,553 | 12,102 | 26,854 |
| 1968-69 | 36,062 | 16,811 | 25,987 |
| 1969-70 | 37,708 | 20,023 | 26,964 |
| 1970-71 | 30,584 | 22,428 | 21,870 |
| 1971-72 | 18,167 | 22,944 | 12,991 |
| 1972-73 | 21,444 | 21,075 | 15,384 |
| 1973-74 | 21,703 | 19,511 | 15,519 |
| Total | 278,793 | 140,690 | 199,360 |

Summary.—64.04 per cent of the I.U.C.D. adopters during the year 1973-74 belong to the age group below 30. The largest proportion of I.U.C.D. adopters belong to the age group 25-29. The percentage of I.U.C.D. adopters in the age group below 30 steadily increased from 48.13 during the year 1966-67 to 64.04 in the year 1973-74.

More than 70 per cent of the I.U.C.D. adopters are Hindus. I.U.C.D. is more popular among literates than among illiterates. 68 per cent of the adopters had 3 or less than 3 living children at the time of acceptance.

More than 65 per cent of the adopters in Trivandrum, Alleppey, Kottayam, Idikki, Palghat and Kozhikode are below 30 years of age.

The percentage of Christians among the adopters in Alleppey, Kottayam, Idikki and Trivandrum is higher than in other districts. The proportion of adopters of this method from the Muslims is lower than their proportion in the general population.

Seventy-seven per cent of the adopters in Trivandrum District had 3 or less than 3 living children at the time of acceptance.

During the year 1967-68 nearly 14 persons out of 1,000 eligible couples had used I.U.C.D. and this declined to 6 in 1973-74.

Out of 32.57 lakhs of eligible couples in the State, 0.68 lakh have been protected by I.U.C.D. up to the period 1973-74.

A total of 199,360 births will be averted by 1984-85 as a result of I.U.C.D. insertion up to March 1974.

Reference.—1. A study of I.U.C.D. acceptors in Kerala during 1966-67 and 1967-68—D.R.C., No.64—1971, Trivandrum.

2. A study of I.U.C.D. acceptors in Kerala during 1968-69, D.R.C. No.69, 1971, Kerala.

3. Some demographic aspects of I.U.C.D. adopters in Kerala during 1969-70, D.R.C. No. 76, 1973, Kerala.

4. The demographic characteristics of I.U.C.D. adopters in Kerala 1970-71, D.R.C. No.88, Trivandrum.

5. Kurup, R.S. A note on the calculation of birth. averted due to family planning in Kerala—Paper No.78-D.R.Cs Trivandrum.

TABLE 5
Number of children living to I.U.C.D. adopters from 1966-74

| No. of children | 1966-67 | 1967-68 | 1968-69 | 1969-70 | 1970-71 | 1971-72 | 1972-73 | 1973-74 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0 | 0.08 | 0.02 | 0.09 | 0.07 | 9.73 | 11.47 | 13.49 | 13.29 |
| 1 | 5.03 | 6.35 | 7.99 | 9.04 | 28.32 | 28.55 | 29.30 | 30.10 |
| 2 | 16.74 | 19.06 | 24.77 | 25.61 | 28.52 | 26.27 | 25.51 | 24.97 |
| 3 | 22.99 | 24.88 | 27.34 | 27.10 | 17.04 | 17.13 | 15.66 | 16.13 |
| 4 | 20.16 | 20.60 | 18.46 | 18.08 | 7.98 | 8.58 | 8.38 | 8.33 |
| 5 | 15.04 | 13.80 | 10.52 | 10.11 | 4.53 | 4.23 | 4.18 | 4.21 |
| 6 | 9.87 | 8.18 | 6.00 | 5.69 | 1.97 | 2.31 | 2.05 | 1.94 |
| 7 | 5.74 | 4.22 | 2.89 | 2.67 | 1.14 | 0.85 | 0.73 | 0.68 |
| 8 | 2.74 | 1.83 | 1.20 | 1.04 | 0.51 | 0.38 | 0.33 | 0.26 |
| 9 | 0.98 | 0.72 | 0.45 | 0.42 | 0.21 | 0.19 | 0.12 | 0.05 |
| 10 | 0.41 | 0.24 | 0.20 | 0.13 | 0.05 | 0.04 | 0.05 | 0.04 |
| 10+ | 0.22 | 0.10 | 0.09 | 0.04 | 0.05 | 0.04 | 0.05 | 0.04 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

TABLE 6
Percentage distribution of acceptors according to Age—Districts—1971-72 to 1973-74

| Districts | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45+ | Total |
|------------|-------|-------|-------|-------|-------|-------|------|--------|
| Trivandrum | 2.27 | 28.90 | 34.02 | 23.82 | 10.11 | 0.80 | 0.08 | 100.00 |
| Quilon | 3.17 | 28.21 | 30.39 | 32.65 | 13.26 | 2.15 | 0.17 | 100.00 |
| Alleppey | 3.30 | 28.17 | 31.42 | 19.50 | 14.05 | 3.14 | 0.42 | 100.00 |
| Kottayam | 3.85 | 33.58 | 31.01 | 17.27 | 11.89 | 2.19 | 0.21 | 100.00 |
| Idikki | 2.90 | 35.81 | 30.50 | 17.66 | 10.14 | 2.90 | 0.09 | 100.00 |
| Ernakulam | 3.66 | 29.23 | 31.05 | 20.30 | 12.55 | 2.75 | 0.46 | 100.00 |
| Trichur | 1.25 | 20.31 | 32.87 | 23.39 | 17.01 | 4.50 | 0.67 | 100.00 |
| Palghat | 2.51 | 20.39 | 46.32 | 17.91 | 11.13 | 1.67 | 0.07 | 100.00 |
| Malappuram | 3.27 | 21.54 | 31.76 | 24.19 | 16.91 | 1.95 | 0.38 | 100.00 |
| Kozhikode | 4.30 | 32.08 | 33.27 | 19.30 | 9.08 | 1.79 | 0.18 | 100.00 |
| Cannanore | 3.56 | 25.60 | 32.39 | 24.60 | 12.50 | 1.35 | .. | 100.00 |

TABLE 7
 Percentage distribution of I. U. C. D. adopters according to religion—Districts—1971-72 to 1973-74

| Districts | Hindu | | Christian | | Muslim | | Total |
|------------|------------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|----------------------------------|--------|
| | 2 | 3 | 4 | 5 | 6 | 7 | |
| | Percentage of I. U. C. D. adopters | Percentage in General population | Percentage of I. U. C. D. adopters | Percentage in General population | Percentage of I. U. C. D. adopters | Percentage in General population | |
| 1 | | | | | | | 8 |
| Trivandrum | 78.72 | 70.72 | 16.03 | 17.26 | 5.25 | 12.02 | 100.00 |
| Quilon | 72.74 | 63.65 | 19.24 | 23.52 | 8.02 | 12.82 | 100.00 |
| Alleppey | 67.19 | 65.50 | 28.77 | 27.63 | 4.04 | 6.85 | 100.00 |
| Kottayam | 60.93 | 48.63 | 34.99 | 46.93 | 4.08 | 4.42 | 100.00 |
| Idikki | 58.55 | | 34.45 | | 7.00 | | 100.00 |
| Ernakulam | 54.48 | 46.13 | 38.17 | 41.54 | 7.35 | 12.33 | 100.00 |
| Trichur | 70.95 | 61.11 | 23.83 | 25.18 | 5.22 | 13.69 | 100.00 |
| Palghat | 86.67 | 76.03 | 3.18 | 2.69 | 10.15 | 21.26 | 100.00 |
| Malappuram | 67.90 | 34.01 | 2.15 | 1.39 | 29.95 | 63.93 | 100.00 |
| Kozhikode | 72.53 | 62.13 | 13.65 | 7.15 | 13.86 | 30.63 | 100.00 |
| Cannanore | 78.99 | 66.23 | 8.56 | 9.40 | 12.46 | 24.34 | 100.00 |
| Total | 70.98 | 59.41 | 20.78 | 21.05 | 8.24 | 19.50 | 100.00 |

**1-7 A STUDY OF THE SECOND MASS VASECTOMY
CAMP IN KERALA**

(Held at Ernakulam in July 1971)

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A STUDY OF THE SECOND MASS VASECTOMY CAMP IN KERALA

(Held at Ernakulam in July 1971)

1. *Introduction.*—Ernakulam District in Kerala State which won the unique distinction of having conducted vasectomy operation on a massive scale through organised camp in 1970 conducted its second camp in July 1971 in which it setup an international record. The second camp was conducted from 1st July 1971 to 31st July 1971. This 31 day camp, which was publicised as “Kudumbakshema Maholsava” (Family Welfare Festival) achieved an all-time record of 62,902 vasectomy operations in the main camp held in the gaily decorated Town Hall at Ernakulam. As a part of the main camp, sub-camps and minicamps were organised in the taluk and municipal areas of the District, where necessary clinical facilities were available. In these camps 516 tubectomy operations were performed thereby making the total number of sterilisation operations during the camp to 63,418. The remarkable achievement of this camp is quite striking when compared to the earlier camp held from 20th November 1970 to 20th December 1970 at the same place when 15,005 vasectomy operations were achieved.

The socio-economic and demographic particulars of the persons who underwent sterilisation in the first camp were published in the report “Population Studies No. 114” issued by the Demographic Research Centre of the Bureau of Economics and Statistics. The present report gives a statistical appraisal of the socio-economic and demographic particulars of the persons who underwent vasectomy operations in the second camp.

2. *Organisation of the camp.*—The main camp was held at the Town Hall at Ernakulam. Initially only a target of 20,000 vasectomy operations was fixed. The target was subsequently revised to 30,000 and again to 50,000. But the actual achievement far exceeded these targets. It may further be noted that the achievement in this camp alone far exceeded the annual target fixed for the whole State by the Department of Health Services.

The credit of the success of the camp goes to the efficient organisation of the camp. The facilities provided for the acceptors in respect of their transportation to and from the camp, the speedy completion of the formalities like registration, disbursement of incentives, etc., and above all the attractive clinical services for the safe conduct of the sterilisation operations deserve mention.

3. *Incentives to the acceptors.*—The liberal incentives offered to the acceptors was a major factor of their attraction to the camp. The incentives to each acceptor with their equivalent money value are listed below:

| | Rs. |
|--|------------------------------|
| (i) Usual cash payment from Government | 21 for male 29 for female |
| (ii) Special cash payment from Government | 14 |
| (iii) Cash payment from local bodies | 10 |
| (iv) Contribution packet from CARE (containing articles like sarees, dhoti, umbrella, etc., and a plastic bag) | 40 |
| (v) One week's free ration for the family | 14 |
| (vi) Lottery ticket | 1 |
| Total | 100 |

In addition to the above the acceptors were given free of cost, (i) Transport to and from the camp, (ii) Refreshment and lunch, (iii) Medicines and tonic. The Camp conducted also lottery in favour of the acceptors with the following prizes on the tickets issued to them free of cost.

| | Rs. |
|-----------|------------|
| One prize | 10,000 |
| 3 prizes | 1,000 each |
| 5 prizes | 500 „ |
| 10 prizes | 250 „ |
| 82 prizes | 100 „ |

The promoters of the acceptors were give Rs. 10 for each case of vasectomy or tubectomy promoted.

4. *Objects of the study.*—The present report attempts (i) to study the distribution of the acceptors over various administrative divisions in the Rural and Urban sectors, (ii) to analyse the socio-economic and demographic characteristics of the persons who underwent vasectomy operations in the main camp; (iii) to assess the impact of the operations in terms of births saved and (iv) to estimate the cost for vasectomy operation.

5. *Data used.*—The details regarding the socio-economic and demographic characteristics were collected and compiled by the District Statistical staff at Ernakulam. The collection of data was done on a sample basis. The declaration forms furnished by the

persons coming for operation was the main source for the data. These forms contained details regarding acceptor's age, age of his wife, religion, income, occupation, educational status and the number of living children. 25 per cent of the declaration forms of the acceptors for each day was selected at random. The data have been collected from 14,149 persons sterilised in the camp. The details presented is the total of the data for the 31 days. The other particulars dealt with in the report are collected from the District Medical Officer, Ernakulam.

6.1. *Regional distribution of acceptors.*—The original target fixed for the camp was 20,000. This was later revised to 50,000. But by the end of the month, even this was exceeded reaching a record figure of 62,902. The average achievement per day was thus above 2,000. The achievement of the 1st camp at Ernakulam was 15,005. The 2nd camp had an achievement more than 4 times the 1st camp.

It will be interesting to analyse the achievement on the basis of the place of the persons. In the first camp, all the persons except 342, came from the district itself. But in the second camp the pattern has changed very much. Only about 31 per cent of the acceptors were from Ernakulam District. Of the remaining 43,494 acceptors, 5 persons came from outside the State. The distribution of the remaining 43,489 cases according to the districts is given below:

TABLE I

Distribution of vasectomy cases from outside, Ernakulam District according to District of origin

| <i>District</i> | <i>Number</i> | <i>Percentage</i> |
|-----------------|---------------|-------------------|
| Trichur | 12330 | 28.35 |
| Kottayam | 11556 | 26.57 |
| Alleppey | 10716 | 24.64 |
| Quilon | 4896 | 11.26 |
| Trivandrum | 2191 | 5.04 |
| Malappuram | 715 | 1.64 |
| Kozhikode | 423 | 0.97 |
| Palghat | 411 | 0.95 |
| Cannanore | 246 | 0.57 |
| Unspecified | 5 | 0.01 |
| Total | 43489 | 100.00 |

The distribution reveals some interesting peculiarities. The proximity to Ernakulam is naturally the most important factor. The three adjacent districts of Trichur, Kottayam and Alleppey account

for about 80 per cent of the vasectomy acceptors outside, Ernakulam District. The percentage difference of acceptors between these districts is only less than 5 per cent. As the distance from the camp increases the number of acceptors of vasectomy decreases. When we come to Quilon District, the percentage decreases to 11 and in the case of the southern most District Trivandrum, the percentage is only 5. In the case of northern districts, the rate of achievement is still lower. Only less than 2,000 vasectomy acceptors are reported from all the 4 districts north of Trichur. This shows that proper organisation and attractive incentives can make such camps serve persons in far off places also.

The achievement of the camp in respect of acceptors within the District was also more than that of previous camp as the number of acceptors in the camp is 19,253 against 15,005 acceptors in the previous camp. The Panchayat and block-wise distribution of the 19,253 acceptors is presented in the detailed table appended to the report. The appendix also gives a comparison of the block-wise and Panchayat-wise achievements of the two camps in terms of the achievement per 1,000 population and in terms of achievement per 100 eligible couples.

6.2. *Panchayat-wise distribution of acceptors.*—The frequency distribution of the Panchayats in the district according to the rate of achievement of sterilisation per 1,000 population given in Table 2 below reveals the progressive response to the family planning methods in the second camp as compared to the 1st camp.

TABLE 2

Distribution of Panchayats according to the rate of achievement

| Rate of sterilisation per 1,000 population | Number of Panchayats according to achievement in | | |
|---|---|----------|------------|
| | 1st camp | 2nd camp | cumulative |
| (1) | (2) | (3) | (4) |
| Below 5 | 31 | 5 | 1 |
| 5-9 | 46 | 32 | 10 |
| 10-14 | 19 | 44 | 17 |
| 15-19 | 2 | 14 | 30 |
| 20 and above | 1 | 4 | 41 |
| Total | 99 | 99 | 99 |

The figures in the above table show that the number of panchayats with higher rate of sterilisation achievement per 1,000 population has

considerably increased in the 2nd camp. While 30 per cent of the panchayats in the district, belonged to the class of 'below 5' sterilisation per 1,000 population in the first camp, it was less than 5 per cent in the 2nd camp as more panchayats moved to the classes of higher rates of achievement of 10 or more sterilisation/1,000 population in the 2nd camp whereas the corresponding percentage in the 1st camp was less than 25. Alakode Panchayat has the least rate in the second camp. This panchayat has a rate below 5 sterilisation/1,000 population even after the two camps. The highest rate of achievement is reported from Arakulam Panchayat. More than 70 per cent panchayats were able to achieve a cumulative rate of 15 or above, sterilisation per 1,000 population as a result of the two camps.

6.3. *Achievement in urban areas.*—The urban areas (only Municipal towns) reported a lower rate of achievement compared to the rural areas in the second camp. While in the first camp the average urban rate of achievement of sterilisation per 1,000 population was slightly higher (7.7) than the rural rate (7.4), in the 2nd camp the urban rate dropped to 6.4 sterilisation per 1,000 population while the rural rate went up to 11 sterilisation per 1,000 population. One probable reason for this may be that large number of couples in the Municipal towns might have had adopted sterilisation even before the massive camps. The eligible couples now available for sterilisation would therefore be lower in these towns.

In order to study the relation between rate of achievement in the various blocks in the two camps, the rank correlation coefficient method has been used. The rank correlation coefficient is worked out between the ranks of the different blocks in the district in the two camps according to the rate of achievement of sterilisation per 1,000 population. The rank correlation coefficient works out 0.53. This shows that the achievements of the blocks in the two camps are highly correlated. This indicates that the blocks which reported relatively high rates of achievements in the 1st camp did so in the second camp also.

7.1. *Characteristics of the sterilised persons.*—The characteristics of the persons who underwent the operation in the camp are studied in the paragraphs that follow. The characteristics considered are (i) age, (ii) age of the wife of the sterilised person, (iii) religion, (iv) educational status, (v) income, (vi) occupation and (vii) the number of children living. As already mentioned, the data for this study have been collected from a 25 per cent sample of declaration forms. The sample size is 14,149.

7.2. *Age.*—The ages of the sterilised person and of his wife are important factors as regards the timing of sterilisation. Vasectomy of a person whose wife is in the far end of her reproductive period has obviously very little saving of births compared to sterilisation of a person whose wife is in the early or middle years of reproductive period.

Table 3 below gives the distribution of sterilised persons according to their age and that of their wives.

TABLE 3

Distribution of sterilised persons according to age

| Age group | Age of husband | | Age of wife | |
|--------------|----------------|------------|-------------|------------|
| | Number | Percentage | Number | Percentage |
| (1) | (2) | (3) | (4) | (5) |
| 15-19 | .. | .. | 189 | 0.3 |
| 20-24 | 881 | 1.4 | 9939 | 15.8 |
| 25-29 | 7611 | 12.1 | 17235 | 27.4 |
| 30-34 | 13461 | 21.4 | 16480 | 26.2 |
| 35-39 | 16921 | 26.9 | 15348 | 24.4 |
| 40-44 | 13083 | 20.8 | 3397 | 5.4 |
| 45-49 | 9561 | 15.2 | 314 | 0.5 |
| 50 and above | 1384 | 2.2 | .. | .. |
| Total | 62902 | 100.0 | 62902 | 100.0 |

Comparatively more persons are drawn for the sterilisation from the age group of 30-44 years. These age groups accounts for 70 per cent of the males sterilised. When the age of wife is considered it is seen that relatively more persons whose wives are in the age group of 25-39 have accepted the sterilisation. That is, as much as 78 per cent of the persons who underwent sterilisation had their wives in the age group 25-39.

In the study of the 1st camp the age of the vasectomised person alone was considered. According to that study 85 per cent was in the age group 30-49 years. When this age group is considered the figure is more or less the same for the two camps. The above percentages point out the trend in adoption of sterilisation. Very few adopt sterilisation in the early years of their married life. The comparison with the figures of the 1st camp shows that sterilisation is increasingly adopted by young couples. The percentage of sterilised persons in 20-29 age group has increased from 9.5 per cent in the first camp to 13.5 per cent in the 2nd camp.

The median age of sterilised persons in the 2nd camp works out to 37.3 years as against 39.1 years in the first camp. When the age of the wives of sterilised persons is considered, the median age works out to 30.7 years in the second camp. The age of wives of sterilised persons was not studied in the first camp and so the comparable figure in the first camp is not quoted.

7.3. *Religion.*—The differential acceptance of family planning by various religious groups is presented in Table 4 below:

TABLE 4

Distribution of sterilised persons according to religion

| <i>Religion</i> | <i>Number</i> | <i>Percentage (2nd camp)</i> | <i>Corresponding percentage in the first camp</i> |
|-----------------|---------------|----------------------------------|---|
| (1) | (2) | (3) | (4) |
| Hindu .. | 42836 | 68.1 | 54.9 |
| Christian .. | 16f06 | 26.4 | 37.1 |
| Muslim .. | 3460 | 5.5 | 8.0 |
| Total .. | 62902 | 100.00 | 100.00 |

The percentage of Hindus is more than that in the 1st camp and those of Christians and Muslims are less than those in the 1st camp. The relative popularity among various religions cannot be assessed since the population from which the sterilised persons came is not exactly known in view of the fact that only 31 per cent of persons came from Ernakulam District and the rest came from other districts in varying proportions. However the expected percentage of the 3 religious groups in the population from which the sterilised persons came have been worked out as weighted average of the percentage of persons in each religion according to 1961 census in the 10 districts of Kerala, the weights being the number of persons sterilised from each district in the camp. These estimates indicate that the population from which the sterilised persons have been drawn in the 2nd camp is composed of 55.9 per cent Hindus, 34.2 per cent Christians and 9.9 per cent of Muslims. On the basis of these percentages it can be seen that among sterilised persons the percentage of Hindus is considerably higher and those of Christians and Muslims are considerably lower as compared to the corresponding estimated percentages in the general population from which the persons have come for sterilisation.

7.4. *Education.*—The common feature noticed about the educational status of sterilised persons is that illiterate persons adopt sterilisation only rarely. Comparatively higher percentage from the higher educational strata come forward to accept sterilisation. Table 5

given below presents the distribution of sterilised persons according to educational status:

TABLE 5

Distribution of sterilised persons according to educational status

| <i>Educational status</i> | <i>Number</i> | <i>Percentage</i> |
|---------------------------------|---------------|-------------------|
| (1) | (2) | (3) |
| Illiterate | 12832 | 20.4 |
| Literate below primary | 28690 | 45.5 |
| Passed primary but below middle | 16317 | 26.1 |
| Passed middle but below matric | 3397 | 5.4 |
| Matric and above | 16.6 | 2.6 |
| Total | 61902 | 100.0 |

The impact of education can be studied by comparing the various educational status groups in the above frequency distribution with those in the general population. According to 1961 Census of Kerala, among males aged 20—59 years, 29.1 per cent of persons were illiterate, 48.5 per cent were literate without educational level, 14.6 per cent passed primary or junior basic and 7.8 per cent passed matriculation and above. A comparison of the distribution of sterilised persons with these figures shows that comparatively fewer persons from the illiterate group and matric or above group came for sterilisation. This comparison may not be fully valid because of the fact that the basic figures used for comparison relate to the whole of Kerala population which is not exactly the population from which the camp has attracted persons. The literates who have passed primary standard but have not attained matric constitute only 15 per cent of male population aged 20—59 years. But among sterilised persons their percentage is more than double that in the general population (31.5). It may be that while the lower proportionate representation of illiterates may be due to lack of sufficient motivation, that of the educated group may be due to the social inhibition in attending such a publicised camp.

7.5. *Income.*—The income of the sterilised person is an important factor in view of the fact that the incentives provided in the camp to the acceptors were very high compared to the usual incentive and this factor alone might have attracted many acceptors to the camp. The distribution of the acceptors according to income is given in Table 6 below:

TABLE 6

**Distribution of sterilised persons according to
monthly income**

| <i>Monthly income</i> | <i>Number</i> | <i>Percentage</i> | <i>Corresponding percentage in the first camp, 1970</i> |
|-----------------------|---------------|-------------------|---|
| (1) | (2) | (3) | (4) |
| Below Rs. 50 | 6164 | 9.8 | 77.3 |
| „ 50—99 | 43466 | 69.1 | |
| „ 100—149 | 9561 | 15.2 | 19.6 |
| „ 150—199 | 2013 | 3.2 | 2.5 |
| „ 200—499 | 1447 | 2.3 | |
| „ 500 and above | 252 | 0.4 | 0.6 |
| Total | 62902 | 100.0 | 100.0 |

The income distribution shows that 79 per cent of the acceptors had a monthly income below Rs. 100, 18 per cent between Rs. 100—199 and only 3 per cent had a monthly income of Rs. 200 and above. The comparison with the figures of the last camp shows striking similarity. The liberal incentives awarded in the camp have attracted a large number of acceptors from the lower income strata.

7.6. *Occupation.*—The distribution of sterilised persons according to occupation is given in Table 7:

TABLE 7

**Distribution of sterilised persons according to
occupation**

| <i>Occupation</i> | <i>Number</i> | <i>Percentage</i> | <i>Corresponding percentage in the first camp</i> |
|--|---------------|-------------------|---|
| (1) | (2) | (3) | (4) |
| Agricultural labourers and other unskilled workers | 37112 | 53.0 | 64.3 |
| Cultivators and farmers | 12769 | 20.3 | 15.7 |
| Skilled worker | 5787 | 9.2 | 9.7 |
| Professional worker | 1761 | 2.8 | 2.5 |
| Trade and Commerce | 2642 | 4.2 | 4.8 |
| Clerical workers | 252 | 0.4 | 0.4 |
| Others | 2390 | 3.8 | 2.4 |
| No occupation | 189 | 0.3 | 0.2 |
| Total | 62902 | 100.0 | 100.0 |

The distribution of the acceptors according to occupational pattern remained more or less the same in the first and second camps, the only difference being that from the agricultural sector, a relatively larger percentage of agricultural labour have been motivated for accepting sterilisation in the camp. This position further corroborates the fact that most of the acceptors in the camp came from the lower income groups.

7.7. *Number of children.*—Table 8 gives the distribution of the sterilised persons according to the number of children living:

TABLE 8
Distribution of sterilised persons according to
number of children living

| <i>Number of children living</i> | <i>Number</i> | <i>Percentage</i> | <i>Corresponding percentage in the first camp</i> |
|----------------------------------|---------------|-------------------|---|
| (1) | (2) | (3) | (4) |
| 1 | 315 | 0.5 | 0.5 |
| 2 | 13776 | 21.9 | 22.3 |
| 3 | 16543 | 26.3 | 27.6 |
| 4 | 12580 | 20.0 | 18.6 |
| 5 | 9184 | 14.6 | 12.8 |
| 6 | 5725 | 9.1 | 11.7 |
| 7 | 2956 | 4.7 | 4.1 |
| 8 | 1258 | 2.0 | 1.3 |
| 9 | 377 | 0.6 | 1.1 |
| 10 and above | 189 | 0.3 | .. |
| Total | 62902 | 100.0 | 100.0 |

The percentage of acceptors with three or less children living was 49 per cent in the second camp as against slightly above 50 per cent in the first camp. The average number of children living per acceptor works out 3.89 in this camp as against 3.85 in the previous camp. Though the differences in the figures are only nominal, one may be led to think that comparatively speaking motivational efforts in second camp had not been as effective as in the first camp.

8. *Impact of the camp.*—The success of the camp has paved the way for organising similar camps in other parts of the State and outside the State. The demographic impact of the camp in terms of births saved, is assessed using the age distribution of the wives of sterilised persons given in Table 3 and the age specific marital fertility rates obtained from sample registration scheme conducted by

he Bureau of Economics and Statistics. The number of births that will be saved in the next year will be 15,098 births. The sterilisation will have their effect in saving births as long as the wives of sterilised persons are in reproductive period and both partners survive.

According to the general norm fixed by the Department of Family Planning, Government of India, about 1.7 births are saved during 10 years time as a result of each sterilisation. The total number of births saved according to this estimate is 106,933 in ten years.

The population of Kerala according to the provisional figures of 1971 census is 212.00 lakhs. The sterilisations conducted in the camp work to 2.90 per 1000 population.

9. *Expenditure of the camp.*—The total expenditure of the camp is worked out as Rs. 92.06 lakhs—Rs. 91.21 lakhs for vasectomy operation and Rs. 0.85 lakh for tubectomy operations. The average expenditure for vasectomy works out to Rs. 145 and that per tubectomy to Rs. 166. About 79 per cent of the expenditure in the case of vasectomy and 81 per cent of the expenditure in the case of tubectomy form the incentives given to the acceptors. About 7 per cent of the expenditure for vasectomy and 6 per cent of expenditure for tubectomy form the benefits to the promoters.

The above details have been taken from the report issued by the District Collector, Ernakulam.

10. *Summary and conclusions.*—Only 31 per cent of the vasectomy cases are from Ernakulam District 60 per cent of the remaining cases are from the adjacent districts of Kottayam, Alleppey and Trichur.

Vasectomy is becoming popular among males in the younger age groups compared to the previous camp. Comparatively few illiterate persons have adopted vasectomy.

The average number of children living is 3.89 at the time of sterilisation.

It is estimated that about 1.07 lakh births will be saved in 10 years by the sterilisations conducted in the camp.

About 0.15 lakh births will be saved in the first year.

APPENDIX
Detailed tables on Block/Panchayat/Town-wise achievement in Massive Vasectomy Camps at Ernakulam

| Name of Block and Panchayat | Population 1961 | Achievement | | Rate per 1000 population | | | Number of eligible couples | Rate per 100 couples | | | | | | | | | | | | |
|------------------------------|--------------------|-------------|----------|--------------------------|------|-------|----------------------------------|----------------------|------|-------|---|---|---|---|---|---|---|----|----|--|
| | | 1st camp | 2nd camp | 1st | 2nd | Total | | 1st | 2nd | Total | | | | | | | | | | |
| | | | | | | | | | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| 1. Vadamkode Block— | | | | | | | | | | | | | | | | | | | | |
| Puthencruz Panchayat | 83181 | 617 | 950 | 7.4 | 11.4 | 18.8 | 128.6 | 4.8 | 7.4 | 12.2 | | | | | | | | | | |
| Thiruvaniyoor " | 13985 | 155 | 228 | 9.7 | 14.4 | 24.1 | 2390 | 6.5 | 9.5 | 16.0 | | | | | | | | | | |
| Poothrikka " | 12478 | 55 | 141 | 4.4 | 11.3 | 15.7 | 1925 | 2.9 | 7.3 | 10.2 | | | | | | | | | | |
| Ikkatanad " | 12109 | 86 | 134 | 7.1 | 11.1 | 18.2 | 1836 | 4.7 | 7.3 | 12.0 | | | | | | | | | | |
| Kun arapuram " | 10998 | 81 | 118 | 7.4 | 10.7 | 18.1 | 1650 | 4.9 | 7.2 | 12.1 | | | | | | | | | | |
| Mazhuvannoor/ | 13555 | 72 | 149 | 5.3 | 11.0 | 16.3 | 2350 | 3.1 | 6.3 | 9.4 | | | | | | | | | | |
| Irapuram " | 18156 | 168 | 180 | 9.3 | 9.9 | 19.2 | 2725 | 6.2 | 6.6 | 12.8 | | | | | | | | | | |
| 2. Parakkadatu Block— | | | | | | | | | | | | | | | | | | | | |
| Nedumbassery Panchayat | 74140 | 520 | 1203 | 7.0 | 16.2 | 23.2 | 11110 | 4.7 | 10.8 | 15.5 | | | | | | | | | | |
| Parakkadavu " | 15093 | 152 | 322 | 10.0 | 21.3 | 31.3 | 2250 | 6.8 | 14.3 | 21.1 | | | | | | | | | | |
| Cheryngamanadu " | 17015 | 110 | 217 | 6.5 | 12.8 | 19.3 | 2530 | 4.3 | 8.5 | 12.8 | | | | | | | | | | |
| Puthen-chikkara " | 13479 | 84 | 219 | 6.2 | 16.2 | 22.4 | 2025 | 4.1 | 10.8 | 14.9 | | | | | | | | | | |
| Kunnukara " | 16728 | 121 | 246 | 7.2 | 14.7 | 21.9 | 2510 | 4.9 | 9.8 | 14.7 | | | | | | | | | | |
| | 11835 | 53 | 199 | 4.5 | 16.8 | 21.3 | 1775 | 3.0 | 11.2 | 14.2 | | | | | | | | | | |
| 3. Vyttila Block— | | | | | | | | | | | | | | | | | | | | |
| Maradu Panchayat | 31838 | 254 | 295 | 8.0 | 9.3 | 17.3 | 4775 | 5.3 | 6.2 | 11.5 | | | | | | | | | | |
| Kumbalam " | 17017 | 162 | 164 | 9.5 | 9.6 | 19.1 | 2530 | 6.4 | 6.4 | 12.8 | | | | | | | | | | |
| | 14821 | 92 | 131 | 6.2 | 8.8 | 15.0 | 2225 | 4.1 | 5.9 | 10.0 | | | | | | | | | | |
| 4. Perne Block— | | | | | | | | | | | | | | | | | | | | |
| Chendamangalam Panchayat | 84458 | 617 | 1250 | 6.5 | 13.2 | 19.7 | 14205 | 4.3 | 8.8 | 13.1 | | | | | | | | | | |
| Ezhikara " | 21998 | 99 | 204 | 4.5 | 9.3 | 13.8 | 300 | 3.0 | 6.2 | 9.2 | | | | | | | | | | |
| Kottuvally " | 11573 | 81 | 164 | 7.0 | 14.2 | 21.2 | 1700 | 4.6 | 9.3 | 13.9 | | | | | | | | | | |
| Chirankara " | 20570 | 103 | 362 | 5.0 | 17.6 | 22.6 | 3045 | 3.3 | 11.7 | 15.0 | | | | | | | | | | |
| | 1501 | 0 | 192 | 7.5 | 11.1 | 18.6 | 2610 | 5.0 | 7.1 | 12.4 | | | | | | | | | | |

APPENDIX—(cont.)

| Name of Block and Panchayat | Population 1961 | Achievement | | Rate per 1000 population | | | No. of eligible couples | Rate per 100 couples | | |
|---|-----------------|-------------|----------|--------------------------|------|-------|-------------------------|----------------------|------|-------|
| | | 1st camp | 2nd camp | 1st | 2nd | Total | | 1st | 2nd | Total |
| | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Vadakkkara Panchayat | 23023 | 204 | 328 | 8.8 | 14.2 | 23.0 | 3450 | 5.9 | 9.5 | 15.4 |
| 5. <i>Koovappady Block—</i> <i>Mudakuzha Panchayat</i> | 86117 | 491 | 887 | 5.7 | 10.3 | 16.0 | 13120 | 3.7 | 6.8 | 10.5 |
| Asamanoor " | 10224 | 75 | 137 | 7.3 | 13.4 | 20.7 | 1550 | 4.8 | 9.0 | 13.8 |
| Vengoor " | 10230 | 94 | 163 | 9.2 | 16.0 | 25.2 | 1550 | 6.1 | 10.5 | 16.6 |
| Rayamangalam " | 13533 | 69 | 200 | 5.1 | 14.8 | 19.9 | 2025 | 3.5 | 9.9 | 13.4 |
| Koovappady " | 19251 | 145 | 146 | 7.5 | 7.5 | 15.0 | 3045 | 4.8 | 4.8 | 9.6 |
| | 32879 | 108 | 241 | 3.3 | 7.3 | 10.6 | 4950 | 2.2 | 4.9 | 7.1 |
| 6. <i>Kothamangalam Block—</i> <i>Kavalangad Panchayat</i> | 92849 | 460 | 1040 | 4.9 | 11.2 | 16.1 | 14250 | 3.2 | 7.3 | 10.5 |
| Pindimana " | 15862 | 125 | 221 | 7.9 | 13.9 | 21.8 | 2400 | 5.2 | 9.2 | 14.4 |
| Kottapady " | 9995 | 52 | 108 | 5.2 | 10.8 | 16.0 | 1500 | 3.5 | 7.2 | 10.7 |
| Kerampara " | 9970 | 54 | 138 | 5.4 | 13.8 | 19.2 | 1500 | 3.6 | 9.2 | 12.8 |
| Kothamangalam " | 8939 | 44 | 95 | 4.8 | 10.6 | 15.4 | 1450 | 3.0 | 6.6 | 9.6 |
| Varapetty " | 116 | 22541 | 227 | 5.1 | 10.1 | 15.2 | 3500 | 3.3 | 6.5 | 9.8 |
| Neelikuzhi " | 9536 | 27 | 105 | 2.8 | 11.0 | 13.8 | 1450 | 1.9 | 7.2 | 9.1 |
| | 16006 | 42 | 146 | 2.6 | 9.1 | 11.7 | 2450 | 1.7 | 6.0 | 7.7 |
| 7. <i>Pampakuda Block—</i> <i>Koothatukulam Panchayat</i> | 99078 | 1175 | 1236 | 11.9 | 12.5 | 24.4 | 14920 | 7.9 | 8.3 | 16.2 |
| Palakuzha " | 11363 | 156 | 239 | 13.7 | 21.0 | 34.7 | 1710 | 9.1 | 14.0 | 23.1 |
| Thirumaradi " | 9701 | 60 | 77 | 6.1 | 7.9 | 14.0 | 14.0 | 4.1 | 5.3 | 9.4 |
| Elanei " | 12717 | 117 | 150 | 9.2 | 11.8 | 21.0 | 1920 | 6.1 | 8.0 | 14.1 |
| Pampakuda " | 12998 | 59 | 99 | 4.5 | 7.6 | 12.1 | 1950 | 3.0 | 5.1 | 8.1 |
| Ramamangalam " | 12216 | 171 | 110 | 13.9 | 9.0 | 22.9 | 1810 | 9.4 | 6.1 | 15.5 |
| Piravam " | 10695 | 267 | 113 | 24.9 | 10.6 | 35.5 | 1650 | 16.2 | 7.0 | 23.2 |
| Manceed " | 18337 | 223 | 271 | 12.2 | 14.8 | 27.0 | 2760 | 8.1 | 9.8 | 17.9 |
| | 11051 | 122 | 177 | 11.0 | 16.0 | 27.0 | 1660 | 7.3 | 10.7 | 18.0 |

| | | | | | | | | | | | |
|-----|---|--------|------|------|------|------|------|-------|-----|------|------|
| 8. | <i>Mulanthurully Block—</i> Edakkattuvalayal | 106287 | 1154 | 1365 | 10-8 | 12-8 | 23-6 | 15960 | 7-2 | 8-6 | 15-8 |
| | Panchayat | 11824 | 142 | 179 | 12-0 | 15-1 | 27-1 | 1800 | 7-1 | 10-0 | 17-1 |
| | " | 13724 | 123 | 209 | 8-9 | 15-2 | 24-1 | 1950 | 6-3 | 10-7 | 17-0 |
| | Amبالloor | 17932 | 245 | 214 | 13-6 | 11-9 | 25-5 | 2700 | 9-1 | 8-0 | 17-1 |
| | Udayampoor | 14135 | 133 | 198 | 9-4 | 14-0 | 23-4 | 2130 | 6-2 | 9-3 | 15-5 |
| | Mulamthuruthy | 18637 | 227 | 262 | 12-1 | 14-1 | 26-2 | 2780 | 8-1 | 9-4 | 17-5 |
| | Thiruvankulam | 30035 | 284 | 303 | 9-4 | 10-1 | 19-5 | 4590 | 6-2 | 6-6 | 12-8 |
| | Thripunithura | 119057 | 936 | 1443 | 7-9 | 12-1 | 20-0 | 17890 | 5-2 | 8-1 | 13-3 |
| 9. | <i>Vypren Block—</i> Elamkunnappuzha | 26468 | 217 | 315 | 8-1 | 11-9 | 20-0 | 3975 | 5-5 | 7-9 | 13-4 |
| | Panchayat | 16105 | 103 | 206 | 6-4 | 12-8 | 19-2 | 2430 | 4-2 | 8-2 | 12-4 |
| | Narakkal | 17129 | 62 | 142 | 3-1 | 8-3 | 11-4 | 2580 | 2-4 | 5-5 | 7-9 |
| | Nayarambalm | 14023 | 88 | 71 | 6-3 | 5-1 | 11-4 | 2100 | 4-2 | 3-4 | 7-6 |
| | Edavanakad | 8858 | 93 | 132 | 10-5 | 14-9 | 25-4 | 1345 | 6-9 | 9-8 | 16-7 |
| | Kuzhupilly | 20403 | 233 | 427 | 12-4 | 20-9 | 33-3 | 30-0 | 8-3 | 13-9 | 22-2 |
| | Pallipuram | 16066 | 120 | 150 | 7-5 | 9-3 | 16-8 | 2400 | 5-0 | 6-2 | 11-2 |
| | Mulavukad | 55514 | 423 | 591 | 7-6 | 10-6 | 18-2 | 8330 | 5-1 | 7-1 | 12-2 |
| 10. | <i>Edappilly Block—</i> Cheranalloor Panchayat | 12401 | 56 | 84 | 4-5 | 6-8 | 11-3 | 1860 | 3-0 | 4-5 | 7-5 |
| | Kadamakkudy | 9229 | 41 | 114 | 4-4 | 12-3 | 16-7 | 1400 | 2-9 | 8-1 | 11-0 |
| | Thrikkakara | 16674 | 221 | 146 | 13-2 | 8-8 | 22-0 | 2490 | 8-9 | 5-9 | 14-8 |
| | Kalamassery | 17210 | 105 | 247 | 6-1 | 14-3 | 20-4 | 2580 | 4-1 | 9-6 | 13-7 |
| 11. | <i>Alangad Block—</i> Varapuzha (Eloor) | 81221 | 644 | 1011 | 7-9 | 12-4 | 20-3 | 12440 | 5-2 | 8-1 | 13-3 |
| | Panchayat | 27939 | 216 | 324 | 7-7 | 11-6 | 19-3 | 4370 | 5-0 | 7-5 | 12-5 |
| | " | 16558 | 144 | 256 | 8-1 | 15-5 | 23-6 | 2490 | 5-8 | 10-3 | 16-1 |
| | Karumalloor | 19221 | 137 | 248 | 7-1 | 12-9 | 20-0 | 3000 | 4-6 | 8-3 | 12-9 |
| | Alangad | 17503 | 147 | 183 | 8-4 | 10-4 | 18-8 | 2630 | 5-6 | 6-9 | 12-5 |
| | Kadungalloor | 122695 | 934 | 1200 | 7-6 | 9-8 | 17-4 | 18440 | 5-1 | 6-5 | 11-6 |
| 12. | <i>Angamaly Block—</i> An-analy Panchayat | 18003 | 132 | 187 | 7-0 | 9-9 | 16-9 | 2840 | 4-6 | 7-6 | 12-2 |
| | Kalady | 16278 | 76 | 171 | 4-7 | 10-5 | 15-2 | 2430 | 3-1 | 7-0 | 10-1 |
| | Kanjoor | 12227 | 67 | 101 | 5-5 | 8-5 | 14-0 | 1860 | 3-6 | 5-6 | 9-2 |

APPENDIX—(cont.)

| Name of Block and Panchayat | Popula- tion 1961 | Achievement | | | Rate per 1000 population | | | No. of eligible couples | Rate per 100 couples | | | |
|--------------------------------|-------------------|-------------|----------|------|--------------------------|------|-------|-------------------------|----------------------|------|-----|-----|
| | | 1st camp | 2nd camp | 4 | 5 | 6 | 7 | | 8 | 9 | 10 | |
| | | | | | | | | | | | 1st | 2nd |
| I | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | |
| Sremooluragaram " | 12659 | 144 | 163 | 11.3 | 12.8 | 24.1 | 1920 | 7.5 | 8.5 | 16.0 | | |
| Malayattoor " | 13177 | 82 | 128 | 6.2 | 9.7 | 15.9 | 1950 | 4.1 | 6.4 | 10.5 | | |
| Marajapra " | 13182 | 131 | 131 | 9.9 | 9.9 | 19.8 | 1910 | 6.6 | 6.6 | 13.2 | | |
| Thuravoor } Mookannoor } | 20183 | 161 | 176 | 7.9 | 8.7 | 16.6 | 3000 | 5.4 | 5.9 | 11.3 | | |
| Karukuty " | 16045 | 141 | 140 | 8.8 | 8.7 | 17.5 | 2400 | 5.9 | 5.8 | 11.7 | | |
| 13. <i>Vazhavaluram Block—</i> | 50062 | 923 | 785 | 11.5 | 9.8 | 21.3 | 11950 | 7.7 | 6.5 | 14.2 | | |
| Vazhavaluram Panchayat | 13315 | 113 | 94 | 8.5 | 7.0 | 15.5 | 2000 | 5.7 | 4.7 | 10.4 | | |
| Vengola " | 17385 | 2 0 | 155 | 14.4 | 8.9 | 23.3 | 2580 | 9.0 | 6.0 | 15.0 | | |
| Keczhurnal " | 13107 | 171 | 114 | 12.7 | 8.4 | 21.1 | 2020 | 8.5 | 5.6 | 14.1 | | |
| Edathala " | 9.00 | 107 | 82 | 11.1 | 8.5 | 19.6 | 14.0 | 7.4 | 5.7 | 13.1 | | |
| Choorankkara " | 10.0 | 140 | 162 | 13.7 | 15.9 | 29.6 | 1520 | 9.2 | 10.6 | 19.8 | | |
| Kizhakkambalam " | 11003 | 142 | 178 | 8.9 | 11.1 | 20.0 | 2400 | 5.9 | 7.4 | 13.3 | | |
| 14. <i>Palluruthy Block—</i> | 36786 | 276 | 443 | 7.5 | 12.0 | 19.5 | 5503 | 5.0 | 8.0 | 13.0 | | |
| Kumbalangi Panchayat | 14500 | 178 | 239 | 10.8 | 14.5 | 25.3 | 2175 | 7.2 | 9.6 | 16.8 | | |
| Chellanam " | 50286 | 98 | 204 | 4.3 | 10.1 | 14.4 | 3030 | 3.2 | 6.7 | 9.9 | | |
| 15. <i>Muvattupuzha Block—</i> | 86298 | 452 | 766 | 5.1 | 8.7 | 13.8 | 13150 | 3.4 | 5.8 | 9.2 | | |
| Piravam/Paipra Panchayat | 14930 | 49 | 228 | 3.3 | 15.3 | 18.6 | 2250 | 2.2 | 10.1 | 12.3 | | |
| Valadom " | 11965 | 178 | 92 | 14.9 | 7.7 | 22.6 | 1800 | 9.9 | 5.1 | 15.0 | | |
| Marady " | 727 | 36 | 41 | 4.6 | 5.2 | 9.8 | 1200 | 3.0 | 3.4 | 6.4 | | |
| Ayarana " | 12203 | 34 | 67 | 2.8 | 5.5 | 8.3 | 1880 | 1.9 | 3.7 | 5.6 | | |
| Pothanikkad " | 11777 | 42 | 120 | 3.6 | 11.0 | 14.6 | 1770 | 2.4 | 7.3 | 9.7 | | |
| Paigattoor " | 9989 | 103 | 103 | 8.0 | 10.8 | 18.8 | 1500 | 5.3 | 7.2 | 12.5 | | |
| Avoly " | 7945 | 15 | 29 | 1.9 | 3.6 | 5.5 | 1100 | 1.4 | 2.6 | 4.0 | | |
| Athakkuzha " | 11662 | 18 | 71 | 1.5 | 6.1 | 7.6 | 1740 | 1.0 | 4.1 | 5.1 | | |

| | | | | | | | | | | | |
|---------------|--------------------------|---------|-------|-------|------|------|------|--------|------|------|------|
| 16. | <i>Thodupuzha Block—</i> | 79857 | 289 | 488 | 3.6 | 6.1 | 9.7 | 11000 | 2.4 | 4.1 | 6.5 |
| | Kailorkkad Panchayat | 10139 | 15 | 56 | 1.5 | 5.5 | 7.0 | 1510 | .9 | 3.7 | 4.6 |
| | Kumarangalam " | 12154 | 51 | 69 | 4.2 | 5.7 | 9.9 | 1820 | 2.8 | 3.8 | 6.6 |
| | Manjallur " | 9937 | 35 | 44 | 3.6 | 4.4 | 8.0 | 1450 | 2.4 | 3.0 | 5.4 |
| | Manakkad " | 10.27 | 47 | 68 | 4.3 | 6.3 | 10.6 | 1620 | 2.9 | 4.2 | 7.1 |
| | Purappuzha " | 8495 | 25 | 55 | 2.9 | 6.5 | 9.5 | 1250 | 2.0 | 4.4 | 6.4 |
| | Thodupuzha " | 19142 | 97 | 168 | 5.0 | 8.8 | 13.8 | 2900 | 3.3 | 5.8 | 9.1 |
| | Karinkunnam District | 9163 | 19 | 28 | 2.1 | 3.1 | 5.2 | 1350 | 1.4 | 2.1 | 3.5 |
| 17. | <i>Elamattam Block—</i> | 122459 | 529 | 1073 | 4.3 | 8.8 | 13.1 | 18240 | 2.9 | 5.9 | 8.8 |
| | Kudayathoor Panchayat | 9723 | 29 | 43 | 1.5 | 4.4 | 7.4 | 1360 | 2.1 | 3.2 | 5.3 |
| | Vazhathope " | 14169 | 122 | 190 | 16.1 | 27.2 | 43.3 | 21.0 | 10.7 | 18.2 | 28.9 |
| | Arakkulam " | 106 | 106 | 196 | | | | | | | |
| | Karikode " | 11623 | 25 | 57 | 2.2 | 4.9 | 7.1 | 1740 | 1.4 | 3.3 | 4.7 |
| | Alako. c " | 17011 | 13 | 45 | 0.8 | 2.6 | 3.4 | 2550 | 0.5 | 1.8 | 2.3 |
| | V. Iiyamattam " | 12070 | 48 | 92 | 4.0 | 7.6 | 11.6 | 1800 | 2.7 | 5.1 | 7.8 |
| | Kodikulam " | 15791 | 79 | 174 | 5.0 | 11.0 | 16.0 | 2370 | 3.3 | 7.3 | 10.6 |
| | Udumpannur " | 17107 | 45 | 127 | 2.6 | 7.4 | 10.0 | 25.0 | 1.8 | 5.0 | 6.8 |
| | Murtam " | 7907 | 33 | 99 | 4.2 | 12.5 | 16.7 | 1200 | 2.8 | 8.2 | 11.0 |
| | Karimannur " | 17058 | 29 | 50 | 1.7 | 2.9 | 4.6 | 2940 | 1.1 | 2.0 | 3.1 |
| | Unclassified | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. |
| | Total | 1453897 | 10760 | 16028 | 7.4 | 11.0 | 18.4 | 219031 | 4.9 | 7.3 | 12.2 |
| <i>Urban—</i> | Always Municipality | 2680 | 104 | 102 | 3.9 | 3.8 | 7.7 | 3700 | 2.8 | 2.8 | 5.6 |
| | North Parur " | 20350 | 101 | 207 | 4.8 | 9.9 | 14.7 | 3600 | 2.7 | 5.7 | 8.4 |
| | Perumbavoor " | 16150 | 54 | 85 | 3.3 | 5.3 | 8.6 | 2420 | 2.2 | 3.5 | 5.7 |
| | Muvattupuzha " | 2296.0 | 100 | 122 | 4.4 | 5.3 | 9.7 | 3410 | 2.9 | 3.6 | 6.5 |
| | Cochin Corporation | 416830 | 3544 | 2709 | 8.5 | 6.5 | 18.0 | 6200 | 5.7 | 1.3 | 10.0 |
| | Total | 503590 | 3903 | 3225 | 7.7 | 6.4 | 13.1 | 75670 | 5.1 | 4.3 | 9.4 |
| | Grand total | 1937487 | 14603 | 19253 | 7.5 | 9.8 | 17.3 | 294701 | 5.0 | 6.5 | 11.5 |

1-8. TRICHUR MASS VASECTOMY CAMP 1972—AN ANALYSIS

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TRICHUR MASS VASECTOMY CAMP, 1972—AN ANALYSIS*

1. *Introduction.*—The Mass Vasectomy Camps evolved during the course of implementation of the Family Planning Programme in India, have proved quite an innovation. The fore-runners of these camps are the famous Ernakulam Camps (November–December 1970 and July 1971) which have rightly earned world-wide attention and reputation. The demographic efficacy of quite a large number of sterilisations during a very short period, has been realised by the administrators of the programme. A month long vasectomy camp was held at Trichur during the period 7th February to 7th March 1972.

2. *Objects of the study.*—The present study proposes to analyse (1) the demographic and socio-economic characteristics of the persons sterilised at the camp, (2) the cost of running the camp, and (3) to assess the impact of the camp. Wherever possible the results of the analysis will be compared with the corresponding aspects of other camps. The data used for this study were collected by the District Statistical staff during the camp by interviewing all acceptors.

3. *Trichur District.*—As a background to the study, it may be relevant to sketch briefly, the demographic features of the district and achievements of family planning programme in the district prior to the camp. Trichur District is centrally located in the State with a population of 21·29 lakhs in 1971. This forms 9·99 of the States population. The decennial population growth rate of 26·09 per cent is very near to that of the State. The density of population per sq. km. is 702, as against 549 for the State as a whole. The district continues to hold the singular distinction of having the highest sex ratio 1081 females per 1000 males in 1971, while that of the State is only 1016. The literacy level is 61·6 per cent just above that of the State (60·4). The proportion of urban population of the district (11·75 per cent) is much less than that of the State (16·3 per cent). Of the population of the district, 25·18 per cent are Christians, 13·71 per cent Muslims and 61·11 per cent Hindus.

4. *Family Planning Programme in the district prior to the camp.*—The progress of achievement of the programme of family planning in the district prior to 1972, depends mostly on the number of vasectomies, which increased till 1967–68 and decreased thereafter. However, the number of tubectomy operations was on the increase. The number of vasectomy operations in 1971–72, was less than 500 until January. The achievement of tubectomy and I.U.C.D. also has been much lower than the State average during years. Table 1 in the appendix presents the performance of the programme in the district. The cumulative achievement in the district without considering attrition works out to only

* This was prepared by Dr. R. S. Kurup and Sri P. S. Gopinathan Nair of the Demographic Research Centre, Trivandrum. The services of Sri P. Gopinathan Nair, Research Assistant are acknowledged.

15 per cent of the eligible couples in 1972. The magnitude of the work that remains is evident. This fact along with a very high density of population, relative industrial backwardness and increasing population growth rate in the district (from 20.32 per cent during 1951-61 to 26.09 per cent in 1961-71) justify any measure which would be successful in controlling the population.

5. *Salient features of the camp.*—The camp was organised by the District Collector. The main camp for male sterilisation was held at the Town Hall, Trichur, and mini-camps at Koratty, Mulamkunnathukavu and Viyyur. Facilities for female sterilisation were provided at the various Maternity Hospitals in the District.

The target of the camp was 15,000 vasectomies but achievement was 20,223 including 126 in the mini-camps. Besides, 699 female sterilisations were also done.

The monetary incentive offered for each acceptor of sterilisation was Rs.65.50 in cash. Besides, free ration for one week, meals, light refreshments and transport facilities were provided to the acceptors. The remuneration for the promoter was Rs.7 for each case.

It is not known whether all the acceptors were entered previously in the eligible couple register for the villages in the District.

6. *Rejected cases.*—2,144 persons, who were registered for sterilisation were rejected, out of a total of 22,366 males registered. This accounts for 9.6 per cent of the total cases registered. It will be interesting to analyse the rejected cases on the basis of cause of rejection, as presented in the following Table:

TABLE 6 (a)

Distribution of rejected cases on the basis of cause of rejection

| <i>Cause of rejection</i> | <i>Number</i> | <i>Percentage</i> |
|--|---------------|-------------------|
| 1. Operated earlier | 465 | 21.7 |
| 2. Hydrocile | 456 | 21.2 |
| 3. Scabies | 363 | 16.8 |
| 4. Senility | 316 | 14.7 |
| 5. Wife not in reproductive age/ attained menopause | 223 | 10.3 |
| 6. Hernia | 60 | 2.8 |
| 7. Not willing | 31 | 1.4 |

| <i>Cause of rejection</i> | <i>Number</i> | <i>Percentage</i> |
|-------------------------------|---------------|-------------------|
| 8. Anaemia | 20 | 0·9 |
| 9. Azospermia | 18 | 0·9 |
| 10. Only one child | 16 | 0·7 |
| 11. Skin disease | 15 | 0·7 |
| 12. Unmarried | 13 | 0·7 |
| 13. Semen examination refused | 11 | 0·6 |
| 14. Semen negative | 9 | 0·5 |
| 15. Venereal disease | 6 | 0·3 |
| 16. Other reasons | 122 | 5·8 |
| Total | 2144 | 100·0 |

Nearly 22 per cent of the rejected cases were sterilised earlier and have again volunteered for sterilisation, perhaps in view of the higher incentive money. In the Trivandrum Camp also, 16 per cent of the rejected cases were sterilised earlier.

7. *Characteristics of the acceptors.*—The characteristics of the acceptors are usually analysed in great details, as the impact of the family planning achievement varies considerably with their characteristics. While the demographic impact is dependent on age and parity of the acceptor in the case of tubectomy, and wife of the acceptor in the case of vasectomy, the socio-economic characteristics will reveal those segments of the society that have already been brought into the fold of the programme and those segments that are resistant and remain to be tackled.

7.1. *Age of acceptors.*—The age distribution of vasectomised person is given in Table 7.1(a) and that of the wives in Table 7.1(b) along with the corresponding percentages in Kerala during 1957-67, and in the 1st and 2nd Ernakulam Camps for purposes of comparison.

TABLE 7.1 (a)
Percentage distribution of vasectomised persons by age

| <i>Age-group</i> | <i>Trichur Camp</i> | <i>Kerala State 1957-67</i> | <i>Ernakulam 1st camp 1970</i> | <i>Ernakulam 2nd camp 1971</i> | <i>Trivandrum Camp-January 1972</i> |
|------------------|---------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------------|
| 15-19 | .. | .. | 0·01 | .. | .. |
| 20-29 | 8·9 | 8·1 | 9·48 | 13·5 | 131·0 |
| 30-39 | 49·5 | 54·2 | 44·28 | 48·3 | 45·95 |
| 40-49 | 42·9 | 37·7 | 40·88 | 36·0 | 21·61* |
| 50 and above | 7·7 | .. | 5·35 | 2·2 | 17·01** |

* Relates to the age-group 40-44.

** Relates to the age-group 45 and above.

In the above table, broad age-groups are given for purposes of comparison. 40.5 of the vasectomised cases belong to the broad age-group of 30-39 years while 49.4 per cent are below 40 years of age. This is less than the corresponding percentage in the other columns, showing thereby that the sterilised persons in Trichur Camp are much older than in other places. The percentage of acceptors in the age-group 50 years and above, is also high. The mean age of the vasectomised persons works out to the rather high figure of 40.29 years.

TABLE 7.1 (b)

Age distribution (percentage) of the wives of persons vasectomised and of tubectomised persons.

| Age-group | Trichur | Ernakulam | Trivandrum | Tubectomised Persons | |
|--------------|---------|-----------|------------|----------------------|-----------------|
| | camp | 2nd camp | camp | Trichur camp | Trivandrum camp |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 15-19 | 0.23 | 0.3 | 0.51 | 0.15 | 0.14 |
| 20-24 | 11.25 | 15.8 | 20.29 | 9.44 | 20.77 |
| 25-29 | 22.75 | 27.4 | 29.38 | 32.76 | 38.24 |
| 30-34 | 23.75 | 26.2 | 23.84 | 27.61 | 24.76 |
| 35-39 | 27.93 | 24.4 | 21.70 | 25.32 | 14.30 |
| 40-44 | 11.25 | 5.4 | 3.89 | 4.15 | 1.24 |
| 45 and above | 2.84 | 0.5 | 0.37 | .. | 0.41 |
| Not recorded | .. | .. | 0.02 | 0.57 | 0.14 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

The mean age of the wives is 33.15, while the corresponding figures of the 1st and 2nd Ernakulam Camps are 32.2* and 31.3* years respectively and 33.7* years for Kerala State. In respect of tubectomised persons also, lower acceptance from younger age groups and higher acceptance from higher age groups, as compared to Trivandrum Camp is evident.

Bearing in mind the normal errors of age reporting and the possibilities of deliberate mis-statement of age during camps, the above tables reveal that a substantial chunk of sterilisations will not have much impact on fertility reduction. There is thus a need for motivating younger couples to accept family planning. The programme and camp administrators may therefore have to intensify propaganda to enlist younger couples in future camps, so as to ensure maximum benefit for

*Veena soni—The Ernakulam Camps, An analysis; page 32.
The Ford Foundation, September 1971.

the expenditure incurred. Old couples may resort to the services available under the normal programme, where the compensation amount is less when compared to that in the camps.

7-2. *Religion*.—In a population consisting of sub-populations based on different religions, any serious difference in family planning practice leading to differential reduction in fertility among religious groups, is likely to be viewed with suspicion by those sub-populations whose rate of acceptance is relatively higher than others.

The analysis of characteristics of acceptors under the normal programme and of earlier camps has shown a lower rate of acceptance of Muslims. In the present case also, though the Muslims form 13.7 per cent of the population of the District their percentage among the persons vasectomised at the camp, is only 6.8 per cent. Evidently their representation is only 50 per cent. In the case of Christians who form 25.2 per cent of the District population, their percentage among sterilised males is 21.6. They are better represented than the Muslims. 71.6 per cent of the sterilised males are Hindus, their proportion in the total population being 61.1 per cent.

Among the 699 tubectomy acceptors, 68.95 per cent are Hindus, 25.77 per cent Christians and 5.28 per cent Muslims.

Looking into the age distribution of acceptors in each religious group, it is seen that a larger percentage of acceptors in the Muslim community are of lower age groups compared to others.

TABLE 7-2 (a)

Percentage distribution of sterilised males according to religion and age

| <i>Age-group</i> | <i>Hindus</i> | <i>Christians</i> | <i>Muslims</i> |
|------------------|---------------|-------------------|----------------|
| (1) | (2) | (3) | (4) |
| 20-24 | 0.48 | 0.69 | 1.30 |
| 25-29 | 7.91 | 8.54 | 11.13 |
| 30-34 | 15.75 | 16.69 | 19.01 |
| 35-39 | 23.85 | 24.92 | 27.26 |
| 40-44 | 21.84 | 21.17 | 18.67 |
| 45 and above | 30.12 | 27.91 | 22.57 |

The median age of Hindus, Christians and Muslims works out to 40.5, 40.1 and 38.8 respectively.

7.3. *Education*.—Perhaps educational backwardness, rather than religious considerations might be the primary cause of lower acceptance, among certain religious group.

In order to study this, the educational level of the sterilised will have to be compared with that of the general population. But the information on educational level by religion is not available for the district. Hence such a comparison is not possible. However the educational level of the sterilised persons is analysed in the following table:

TABLE 7.3 (a)

Percentage distribution of sterilised males according to religion and educational status

| <i>Educational status</i> | <i>Hindus</i> | <i>Christians</i> | <i>Muslims</i> | <i>Total</i> |
|----------------------------|---------------|-------------------|----------------|--------------|
| Illiterate | 26.72 | 13.53 | 32.34 | 24.25 |
| Below primary | 44.38 | 57.55 | 37.92 | 46.78 |
| Below middle | 15.07 | 17.20 | 16.85 | 15.65 |
| Below Matric | 4.79 | 5.26 | 2.75 | 4.76 |
| Matric and above | 3.70 | 3.50 | 2.39 | 3.59 |
| Literate but not specified | 1.36 | 0.76 | 1.09 | 1.22 |
| Not recorded | 3.98 | 2.20 | 6.66 | 3.75 |

It is seen from the above Table that almost 1/3 of the Muslim acceptors are illiterate, as against only 13.5 among Christians and 26.7 per cent among Hindus. It is also noteworthy that the percentage of acceptors who are Matric and above from the Muslims is lower than from the other two groups. Again, more than 71 per cent of the total acceptors are below the level of primary education. The wide publicity and extension work preceding the camp seem to have succeeded in netting a very large percentage from the educationally backward strata. The general level of literacy in the district is 48.16 per cent in 1961 and 61.61 per cent in 1971. The educational distribution of tubec-tomised persons reveal quite a different picture as may be seen from the following Table:

TABLE 7.3 (b)

Percentage distribution of sterilised females according to religion and educational status

| <i>Educational status</i> | <i>Hindus</i> | <i>Christians</i> | <i>Muslims</i> | <i>Total</i> |
|----------------------------|---------------|-------------------|----------------|--------------|
| Illiterate | 8.30 | 5.00 | 5.41 | 7.30 |
| Below primary | 37.55 | 43.33 | 35.14 | 38.91 |
| Below middle | 13.90 | 14.44 | 5.41 | 13.59 |
| Below matric | 9.34 | 7.78 | 2.70 | 8.58 |
| Matric and above | 4.77 | 1.67 | 8.11 | 4.15 |
| Literate but not specified | 0.21 | 0.56 | .. | 0.29 |
| Not recorded | 25.93 | 27.22 | 43.23 | 27.18 |

Quite unlike men, illiterate women do not seem to have been attracted by the camp to any appreciable extent, in any of the religious group. The more educated (Matric and above) among the Muslim women seem to have willingly come forward in larger numbers to accept this method.

7.4. *Income.*—The distribution of male and female acceptors of sterilisation is given below:

TABLE 7.4 (a)

Percentage distribution on the basis of monthly income

| Monthly Income | Sterilised males | | Sterilised female | |
|----------------|------------------|------------|-------------------|------------|
| | Number | Percentage | Number | Percentage |
| Below Rs. 50 | 1456 | 7.2 | 34 | 4.9 |
| 50—99 | 13330 | 65.9 | 146 | 20.9 |
| 100—149 | 3257 | 16.1 | 5 | 0.7 |
| 150—199 | 1117 | 5.5 | 3 | 0.4 |
| Above Rs. 200 | 783 | 3.9 | 6 | 0.9 |
| Not recorded | 280 | 1.4 | 505 | 72.2 |
| Total | 20223 | 100.00 | 699 | 100.0 |

It is evident from the table that the large majority of the male acceptors are in the low income category of Rs. 100 per month. Only a very small minority of just 4 percent are in the income group Rs. 200 and above per mensem. As regards tubectomy cases 72 per cent has not given this information.

To enable comparison of the income distribution of acceptors of Trichur camp, two tables are given below—One for males and the other for females.

TABLE 7.4 (b)

Trend in the percentage distribution of vasectomised persons on the basis of monthly income

| Income group (Rs.) | Ernakulam | Ernakulam | Trivandrum |
|--------------------|--------------------|--------------------|----------------|
| | 1st camp (1970) | 2nd camp (1971) | camp (1972) |
| Below Rs. 50 | 77.3 | 9.8 | 2.1 |
| 50—99 | | 69.1 | 45.7 |
| 100—149 | 19.6 | 15.2 | 28.4 |
| 150—199 | | 3.2 | 14.3 |
| 200 and above | 3.1 | 2.7 | 8.5 |
| Not recorded | .. | .. | 1.0 |

TABLE 7.4 (c)
Trend in the percentage distribution of tubectomised persons on the basis of monthly income

| Income group | Kerala State | | | |
|-------------------|--------------|----------|----------|----------------------|
| | 1967-68* | 1968-69* | 1969-70* | Trivandrum camp-1972 |
| Below Rs. 50 | 29.8 | 22.6 | 9.5 | 4.4 |
| 50-99 | 57.8 | 59.0 | 74.7 | 23.7 |
| 100-149 | 6.9 | 8.9 | 6.9 | 1.0 |
| 150-199 | 3.3 | 4.3 | 4.4 | 0.1 |
| Rs. 200 and above | 2.2 | 5.2 | 4.5 | 2.3 |
| Not recorded | .. | .. | .. | 68.5 |

* Not recorded cases not considered.

7.5. *Occupation.*—The differential acceptance by various occupational groups and the corresponding data for some other camps are given in the following Table:

TABLE 7.5 (a)
Occupation distribution (percentage) of sterilised persons

| Occupation | Males | | Females | | | |
|-----------------------------|------------|------------|-----------|----------|--------------|-----------------|
| | Trivandrum | Trivandrum | Ernakulam | | Trichur camp | Trivandrum camp |
| | | | 1st camp | 2nd camp | | |
| Agricultural labourer .. | 20.8 | 40.17 | 64.3* | 59.0* | 5.3 | 2.34 |
| Skilled workers .. | 15.7 | 16.30 | 9.7 | 9.2 | 0.3 | 21.75 |
| Unskilled workers .. | 41.0 | 21.80 | .. | .. | 16.2 | 23.80 |
| Cultivators and farmers .. | 7.7 | 5.22 | 15.7 | 20.3 | .. | .. |
| Professional workers .. | 0.8 | 1.42 | 2.5 | 2.8 | 0.6 | 1.93 |
| Traders and business men .. | 6.7 | 5.61 | 4.8 | 4.2 | 0.4 | 0.14 |
| Clerical workers .. | 1.1 | 1.41 | 0.4 | 0.4 | .. | 0.41 |
| Others .. | 5.1 | 7.41 | 2.4 | 3.8 | .. | 0.27 |
| No occupation .. | 0.1 | 0.15 | 0.2 | 0.3 | 4.0 | 67.95 |
| Not recorded .. | 1.0 | 0.51 | .. | .. | 73.2 | 0.41 |
| Total .. | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

* Includes unskilled workers also.

As may be seen from the above table, in all the camps, among the vasectomised persons, the large majority is from the category of agricultural labourers and unskilled workers. Compared to the two camps at Ernakulam a much smaller percentage of cultivators and farmers only have been netted for the Trichur camp; as against a higher percentage of skilled workers. This pattern is in conformity with that of Trivandrum camp.

Among the tubectomy cases of Trichur camp, for 73 of the cases occupation is not recorded at all. As such no reliable conclusion can be drawn. It is likely that the large percentage of no occupation cases of Trivandrum camp, might be of house wives. The same may apply to a substantial portion of the not recorded cases of Trichur camp.

7.6. *Number of living children.*—The number of living children to the acceptors at the time of sterilisation is an important indicator of the extent of possible reduction in fertility that could be attained and indirectly of the number of children desired by the acceptors. Among the vasectomy cases 42.4 per cent are having 3 or less than three children. The corresponding percentage for Trivandrum camp is 50.9 per cent and for the 2nd camp at Ernakulam 49 per cent. The detailed percentage distribution is given below, along with the figures available for other camps.

TABLE 7 6 (a)
Distribution per cent of sterilised males according to the number of children living

| <i>No. of children living</i> | <i>Trichur camp</i> | <i>Trivandrum camp</i> | <i>Ernakulam 1st camp</i> | <i>Ernakulam 2nd camp</i> |
|-------------------------------|---------------------|------------------------|---------------------------|---------------------------|
| (1) | (2) | (3) | (4) | (5) |
| 0 | 0.9 | 0.7 | 0.5 | 0.5 |
| 1 | 18.8 | 24.7 | 22.3 | 21.9 |
| 2 | 22.7 | 25.6 | 27.6 | 26.3 |
| 3 | 19.6 | 17.6 | 18.6 | 20.0 |
| 4 | 15.5 | 13.2 | 12.8 | 14.6 |
| 5 | 10.9 | 8.9 | 11.7 | 9.1 |
| 6+ | 11.6 | 9.3 | 6.5 | 7.6 |

A higher proportion of acceptors with larger number of children, in Trichur camp is evident from the above Table.

Of the tubectomy acceptors, 42.8 percent are having less than three children, as against 55.4 per cent in respect of those who accepted tubectomy of Trivandrum camp.

Incidentally, it may be remarked here that on analysing by sex of children living to acceptors, 5.6 percent did not have any male child

living and 9.8 per cent did not have any female child living. 84.6 per cent of the acceptors have children of both sexes.

8. *Type of promoters.*—As the camp aimed at total Community involvement, different categories of personnel were engaged in promoting cases. The relative effectiveness of these various categories could be judged by an analysis of the percentage of cases promoted by each promoter category. However, the data collected do not permit a detailed analysis. The available details are given in the following table. For tubectomy, the data are not of any use due to a large percentage (81.5) of “Not recorded” cases.

8 (a)—Percentage distribution of cases on the basis of promoter category

| <i>Type of promoter</i> | <i>Percentage of cases (Vasectomy)</i> |
|-------------------------|--|
| Health staff | 26.1 |
| Village Revenue staff | 35.3 |
| Government servants | 4.7 |
| Others | 29.4 |
| No promoter | 1.9 |
| Not recorded | 2.6 |

The predominant role of health and village staff in promoting cases is evident from the above table. The organisation of the camp under the leadership of the District Collector seems to have brought in a greater involvement of the village revenue staff. With their grass root contacts with the rural people, it is worth considering how their participation in the programme could be made more effective and on a permanent footing. It is also worth mentioning that the percentage of self promoted cases is only 1.9, as against 8.9 per cent for the 1st Ernakulam camp.

9. *Cost of the programme.*—The total expenditure incurred for the camp is Rs. 19.25 lakhs. The break-up of the total amount spent under various heads is given below:

TABLE 9 (a)

Breake-up of total expenditure

| <i>Item of expenditure</i> | <i>Amount spent Rs.</i> |
|------------------------------|-----------------------------|
| 1. Allowances to acceptors.— | |
| (a) Vasectomy | .. 13,24,541.00 |
| (b) Tubectomy | .. 51,376.00 |
| 2. Fee to promoters: | .. 1,44,998.00 |

TABLE 9 (a)—(cont.)

| <i>Item of expenditure</i> | <i>Amount spent</i> Rs. |
|---------------------------------------|----------------------------|
| 3. Allowances to Medical staff.— | |
| (a) Medical Officers .. | 52,610 00 |
| (b) Nurses .. | 20,919-00 |
| (c) Attenders .. | 20,919-00 |
| 4. Lottery tickets .. | 6,500-00 |
| 5. Medicine .. | 34,874-00 |
| 6. Free food .. | 29,700-00 |
| 7. Camp and publicity .. | 83,227-40 |
| 8. Establishment .. | 50,892-50 |
| 9. Miscellaneous and contingencies .. | 11,756-55 |
| 10. Cost of petrol .. | 75,368-25 |
| 11. Bus fare refund .. | 17,343-50 |
| Total .. | 19,25,026-50 |

The expenditure per operation works out to Rs. 92. A statement showing the comparative expenditure per operation, average payment to acceptor etc., for the various camps held in the State, is given below.

TABLE 9 (b)
Comparative statement of cost and some of its components

| Nature of item | Trichur camp February 1972 | Ernakulam 1st camp Novem- ber 1970 | Ernakulam 2nd camp July 1971 | Cannanore camp March 1972 |
|--------------------------------|-------------------------------|--|---------------------------------|---------------------------------|
| 1 | 2 | 3 | 4 | 5 |
| | Rs. | Rs. | Rs. | Rs. |
| Average cost per vasectomy .. | 92-00 | *113-00 | *145-00 | 93-00 |
| Average payment to acceptor .. | 69-86 | **86-00 | **114-00 | 81-90 |
| Average promoter .. | 7-00 | **5-00 | **10-00 | 8-00 |

*The story of the Ernakulam experiment in Family Planning—Published by the Government of Kerala.

**The Ernakulam camps—by Veena Soni—Ford Foundation, New Delhi.

It may be noted from the above table, that both the average, cost per vasectomy and payment to acceptor are the least in respect of Trichur camp.

10. *Births averted by the performance of the camp and economic benefit.*—It is seen that one sterilisation in Kerala will prevent 2.54 births during the course of 23 years. On this basis, the total sterilisations done at the main and mini camps, would prevent an estimated number of 53142 births, during the course of 23 years from 1973 onwards. The cost per birth prevention therefore will be only Rs. 36.22. Applying the same number of births prevention per sterilisation as above namely 2.54, the total prevented births that would result from the 2nd Ernakulam camp works out to 161082, with a cost of Rs. 57 per birth prevented. Thus, it is evident that the average cost per birth prevention of Trichur camp is much lower than that of the Ernakulam 2nd camp. Here, the differentials in age or number of children of acceptors of these individual camps or the prevailing fertility and mortality levels and the like are not considered due to paucity of data, though they are very important for purposes of comparison. The average economic value of a prevented birth is the difference between the cost of rearing a child during its period of dependency and the stream of benefits that would accrue during the period of work, after the child grows up. Since such a value is spread over a long period of time, its present value is obtained by applying a rate of discount. A conservative estimate of such a value is Rs. 1,500/. Since the births prevented by the sterilisations done at the camp, will be over a period of 23 years the equivalent number of births prevented as of the present date has to be considered. Alternately the economic value itself can be discounted once more. In that case the average economic value of a birth averted could be taken as Rs. 950*/. Applying this estimate to the number of births averted by the Trichur camp, the economic benefits that would accrue from this camp is of the order of Rs. 50.48 millions. Since the total cost of the Trichur camp is Rs. 19.25 lakhs, the benefit-cost ratio is 26 to 1. This is certainly much higher than that of other camps and of other programmes even though the figures may not be strictly comparable in all cases.

11. *Policy Implications.*—The above analysis leads to certain policy implications. In camps where distinctly higher incentive is offered, there is greater need to ensure the acceptance by persons from lower age and parity groups, so as to get better yield in terms of births averted. That a very large percentage (71 per cent) of camp acceptors is only rarely literate and have no education above primary standard shows that this stratum has been attracted to the camp, mainly by the higher incentive offered, supplemented perhaps by the motivational

*The Ernakulam camps—An analysis by Veena Soni—The Ford Foundation of India, New Delhi.

efforts to a small extent. The need for intensifying the educational campaign, among this stratum is evident. Similarly the less than proportionate representation of Christians and Muslims, shows that new ways have to be devised to attract more acceptors from these religious groups.

APPENDIX

TABLE I

Progress of Family Planning in Trichur District

| <i>Year</i> | <i>No. of male sterilisations</i> | <i>No. of female sterilisations</i> | <i>No. of IUCD insertions</i> |
|-------------|---------------------------------------|---|-----------------------------------|
| 1964-65 | 1631 | 344 | .. |
| 1965-66 | 3721 | 411 | .. |
| 1966-67 | 4016 | 676 | .. |
| 1967-68 | 5570 | 1001 | 3220 |
| 1968-69 | 4379 | 1137 | 2434 |
| 1969-70 | 3493 | 1463 | 2676 |
| 1970-71 | 2986 | 2026 | 2638 |
| 1971-72 | 429** | 3042 | .. |

**Excluding the achievement of the camp.

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1.9. FAMILY PLANNING FESTIVAL AT CANNANORE
(11-3-1972 to 10-4-1972)

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