



GOVERNMENT OF KERALA

REPORT OF THE COMMITTEE
FOR
EVALUATION OF
FAMILY WELFARE PROGRAMME
(KERALA)

1978

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(KERALA)



The Government of Kerala

P R E F A C E

Family Welfare Programme is being implemented in this State for the last so many years. Generally this programme has been successful and has attracted the attention of people from outside the State also. But no organised attempt had been made to evaluate the achievements under the programme on a systematic basis. There have been requests from various quarters that a proper assessment of the inputs and achievements of the programme must be made and the future continuance must be decided on the basis of the findings of such an assessment. The State Family Planning Advisory Committee also had raised this point. Government after considering all these aspects, constituted a committee consisting of the following members to evaluate the implementation of the Family Welfare Programme in this State:

1. Secretary to Government, Health Department
(Chairman)
2. Director of Health Services
3. Director of Bureau of Economics and Statistics
4. Prof. Krishna Pillai, University of Kerala
5. Prof. P.K.B. Nair
6. Shri P.S. Gopinathan Nair, Bureau of Economics and Statistics (Member-Secretary)

Later, Dr. R. S. Kurup, Bureau of Economics and Statistics and Dr. A.B. Saha, Regional Director, Ministry of Health and Family Welfare, Government of India were co-opted as members.

The committee held eleven sittings and gathered information from the public at three sittings at Kozhikode, Trichur and Kottayam. The committee has now finalised the report. On behalf of the members of the committee and on my own behalf as Chairman of the committee I am happy to submit the report to Government.

I had been getting sincere co-operation and valuable assistance from the members of the committee and that has helped considerably in preparing the report. I wish to place on record my deep sense of gratitude to all the members. I wish to make special mention of Shri N. Gopalakrishnan Nair who agreed to continue to co-operate with the committee even after his retirement from the post of Director of Bureau of Economics and Statistics. Similarly, the valuable assistance rendered by the two Professors from the University and the staff of the C.A.R. Centre also deserves special mention. Dr. R.S. Kurup, with his vast experience in the field of Demographic Research has contributed substantially to the technical aspect of the report. Shri P. S. Gopinathan Nair, Member-Secretary had spared no efforts in the discharge of his responsibilities as the Member-Secretary. He was attending to this work in addition to his normal work in the Bureau of Economics and Statistics. I should like to make special mention of the fact that the burden of actual drafting of the report on the basis of the discussions and decisions of the committee mainly fell on his shoulders and he discharged his responsibility in this regard quite efficiently. I thank them all for the sincere co-operation and help rendered by them.

The response from the leaders of public opinion, representatives of the Press, voluntary organisations and the officers and staff of the department of Health Services to the appeals issued by the committee has been very encouraging. But for this enthusiastic response and co-operation, the committee would not have been able to make such a valuable study. On behalf of the committee I express my sincere thanks to everyone who co-operated in our work.

The committee hopes that the report will be helpful in shaping the future programme for not only population control, but for total family health care also in this State.

C. P. RAMAKRISHNA PILLAI,
*Secretary to Government and Chairman,
 Family Welfare Evaluation Committee.*

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CHAPTER I

KERALA—HISTORY AND CULTURE

1.0 Introduction

Kerala, the “rock bound and sea-girt” land on the west coast of the Indian Peninsula, is aptly described “as a world in itself”. With the grand diversity in physical features and natural setting, this part of the country has been remarkable in its domestic organization and social polity. No wonder that⁽¹⁾ “Kerala presents a chapter of surpassing interest in the study of the Indian Sub-Continent”.

The State of Kerala is flanked on the east by the majestic Western Ghats and on the west by the Arabian Sea with its silvery spray. Starting from east to west one is wonder-struck with the vast expanse of evergreen forests, range of laterite hills, terraced slopes, broad table-lands and wide valleys; still further down are the stretches of paddy fields embossed with coconut groves which provide a canopy of perpetual verdure. The rapid-running rivers that gush from the acclivities of the ghats and the innumerable streams intersect the land in several directions. To add to this panoramic picture is the endless chain of backwaters encircling the feathery palms and the extremely varied flora and fauna that one comes across everywhere in the State.

1.1 Geographical Features

The location of the State is between 8° 17' to 12° 47' north latitude and 74° 52' to 77° 24' east longitude. The State is bounded on the north and north-east by the State of Karnataka, on the east and south by Tamilnadu and on the west by the Arabian Sea. The area of the State is 38,864 sq. kms. The geographical features are marked by the chain of mountains constituting the Western Ghats, the disproportionately long sea coast, the innumerable rivers and the backwaters which run parallel to the sea coast.

The Western Ghats consist of several peaks ranging from 3,000 ft. (910 M) to 8,000 ft. (2,427 M) above the sea level. This chain of peaks has acted like an impregnable fortress till the modern times and has, by and large, helped the State to remain unaffected by the various foreign invasions and convulsions of the north. The dense forests of the Western Ghats provide valuable timber, sandalwood, medicinal herbs, etc.

The 530 kilometres of sea coast—no doubt too long for its size—is a decisive geographical factor. This has influenced the historical and cultural development of the State. The enforced isolation ensured by

(1) General Report of Travancore—1911 Census

the mighty Ghats on the east, has been amply compensated by the facility provided by the sea for extensive foreign contacts from very ancient times. This in turn has helped the development of a maritime tradition for the State. Several religions like Judaism, Christianity and Islam came to Kerala by sea. Besides, the invaluable fish provided by the sea fills a crucial gap in the deficit food supply of the State.

As the 1961 Census Report states,⁽²⁾ "Few countries of similar extent are washed by so many fine streams". Of the 44 rivers, only 3 are flowing to the east, the rest are flowing to the west. Besides providing navigational facility and enriching the soil, the rivers have helped to develop habitations on their banks from time immemorial. In modern times these rivers have proved invaluable as a source of irrigation and hydroelectric power. Several industries have also come up on their banks. Thus, these rivers have proved their worth as a blessing for the land both in ancient and modern times.

The continuous chain of backwaters or lagoons which are all connected with one another by canals, provide an easy, efficient and important navigational system for the State.

The climate is generally salubrious. The type of extreme summer and winter found in Northern India is conspicuous by its absence in Kerala. The dominant feature of the climate is the heavy south-west Monsoon, with its violent wind and torrential rain which starts from June-July and lasts till August-September. The climate along the coastal area is humid and sultry. Up in the higher regions the climate ranges from severe heat to pinching cold. The State is also blessed with north-east Monsoon which begins about the middle of October. The wet or rainy period closes with December, paving the way for the cold season. The temperature varies from 68°F to 98°F while the mean temperature is about 90°F. The average annual rainfall is about 300 cms.

The layout of the mountains and hills forming the Western Ghats, the course of the rivers, and the location and shape of the backwaters—have all contributed to the peculiar and magnificent configuration of the land, which could be easily divided into three natural regions with distinct characteristics. These regions—namely Highland, Midland and Lowland—run across the entire length of the State forming parallel belts. The Highland consists of ⁽³⁾ "long spurs, extensive ravines, dense forests and tangled jungles" with rich tropical flora and fauna. Hills of gentler ascents, wide valleys and luxurious vegetation characterize the Midland. The narrow strip of land along the long sea coast, containing the river deltas and backwaters form the Lowland region.

(2) Census of India 1961—Kerala—General Report

(3) Ibid

The soil can be broadly classified into three categories—laterite, sandy and alluvial. A large part of the area of the State is covered by the laterite soil, of low natural fertility. The sandy soil along the coast is deficient in all the major plant foods. The alluvial soil, transported by the rivers are however rich in organic matter and other ingredients; and is highly fertile.

1.2 Flora and Fauna

The plentiful rainfall, bracing climate and the soil enriched by rivers have all contributed to an immense variety of flora and fauna, many of which have figured as important items of trade with foreign lands even from ancient times. Spices such as pepper, cardamom and cinnamon, animals like the elephant, the pea-cock and the monkey, species of timber like teakwood and rosewood have all figured as items of export from time immemorial. There are at least seven hundred varieties of trees in Kerala. The State abounds in a large variety of animals, birds, reptiles and insects, some of which are very rare. The important and valuable mineral resources of the State include the beach sands containing ilmenite, monozite, zircon, etc.

1.3 Historical Development

The ancient past of Kerala is shrouded in colourful traditions and imaginary legends. The story about the origin of the State, has a romantic touch quite befitting the State's ethereal natural beauty. Patient and painstaking research by eminent scholars is slowly unravelling the glorious past of Kerala.

The legend that Parasurama—one of the ten Avatars of Vishnu—reclaimed this land from the sea by flinging his axe, is interpreted in many ways which are disputable. The story appears to be a curious mixture of a probable geological truth of the land having been thrown up in some seismological convulsion in the distant past, and the calculated version propagated by a dominant group (Brahmins) to popularise the theory of their predominance. However, there is near unanimity among the scholars that there is very little historical authenticity about this legend.

A word about the origin of the name "Kerala" may not be out of place. The popular notion is that the name has been derived from the word 'Kera' which means coconut, the ubiquitous fruit tree of the State. There are also other interpretations like that the word is derived from the Canarese word and that it is the Sanskritised version of "Cheralam" which in Tamil means the "Slushy land".

A. Sreedhara Menon observes in his book,⁽⁴⁾ "A Survey of Kerala History", "The prehistory of Kerala is shrouded in obscurity". It is believed that the earliest inhabitants were the Dravidians, the descendants of Mediterraneans (who left their home following Greek aggression and of whom a section settled in South India) and the Proto-Austroloids. The Aryans who captured North India, and later on pressed towards the south,⁽⁵⁾ "began to enter Kerala two or three centuries before the Christian Era" and settled here. This intermingling of the races from ancient times and the readiness with which other religions of even foreign origin were accepted in the State, along with the customs and manners of these diverse religions have made Kerala a veritable anthropological paradise, according to the great British Anthropologist, Arthur Keith.

Another aspect of Kerala's ancient history which deserves special mention is the extensive foreign contacts which the State had with the Assyrians, Babylonians, Phoenicians and the Greeks, even from the 3rd millennium B. C. There are references to Kerala's spices in the old Testament in King Solomon's story (1000 B. C.) and in the writings of Herodotus, the Greek Historian. It is even said that⁽⁶⁾ "Kerala pepper has been one of the decisive factors in World History".

Kerala's pepper brought the navigator Hippals to its capital in A. D. 30. In the middle ages Kerala was the entrepot of trade between the East and the West. Thus the facility provided by the sea and the fame of her spices led to the contacts, which in turn resulted in the acceptance of new religions and intermingling of cultures. Leaving the obscure ancient period of Kerala history, glimpses about the socio-economic life of the people, military adventures, forms of administration, etc., can be had from the Tamil literary works of what is known as the Sangam Age, which approximately consists of the first five centuries of the Christian Era. Important among these works are the Patittupattu, the Akananuru, the Purananuru, and the famous Silappadikaram of Ilango Adikal. During the Sangam Age, the then Kerala was part of a larger unit known as Tamilakam. During the early Sangam Age, Kerala was ruled by three powers—the Ayis in the South, rulers of Ezhimala in the North and Cheras in the country in between. During the course of the five centuries, first the Ayis and then the Cheras came into prominence.

But the Sangam Age was followed by three centuries of obscurity, when other South Indian powers like the Pallavas, Pandyas, Chalukyas and Rastrakutas seem to have over-run Kerala. However, there was a revival of Chera power by 800 A. D. During the period of this 2nd Chera empire (800 to 1102 A. D.) an illustrious line of kings known as

(4) A. Sreedhara Menon—A Survey of Kerala History

(5) Ibid

(6) K. V. Krishna Iyer—A History of Kerala

Kulasekharas ruled Kerala. The end of this period saw mounting aggression by the Cholas. The break-up of the Kulasekhara empire saw the emergence of Independent States. Important among them were Venad in South Kerala, Kolathunad (North Malabar), Cochin and Kozhikode.

The absence of a central authority, the periodical rise and fall of these kingdoms and the internecine quarrels among them, along with the rise of many minor principalities which exerted local power—all together provided a very favourable ground for the foreign powers who arrived on the scene to whip up quarrels and establish their foothold.

The beginning of this unfortunate period commenced with the arrival of Vasco de Gama in Calicut in 1498, followed by the arrival of the Dutch and then the French and the English. The diplomacy of these western powers, turned state against state. The history of this period is a recorded one, too familiar to be reiterated. The consolidation of Travancore, as a Princely State, the subjugation of Zamorin of Calicut, the heroic fight against the English, and the final establishment of the British power in India, all saw Kerala divided into three parts namely, the Princely States of Travancore and Cochin and the Malabar district of the erstwhile Madras presidency. This State of partition under three different administrations continued throughout the 19th century and for almost half of the 20th century. This was the set up of Kerala when India became independent in 1947. The merger of Travancore and Cochin in 1949 followed by the reorganisation of the States on a linguistic basis in 1956 saw the formation of a united Kerala—the present State.

From the brief bird's eye view of the history of the State, it is seen that Kerala has gone through periods of war and political unrest. Various forms of Governments have been tried here. It is no exaggeration to say that Kerala has oscillated from oligarchy to protectorship, and then to effective monarchy and back to democracy. This land has accepted, assimilated and later on rejected many a religion of the world. Here has evolved social structures of various forms to suit the changing conditions of life.

1.4.0 Social and Economic Conditions through the ages

The very brief outline of political history given above, will have significance only if it is considered in relation to the changes that occurred in the socio-economic conditions through the different epochs. The conditions in the Sangam age (first five centuries of the Christian Era) which bore distinctive characteristics of Dravidian civilisation, underwent drastic changes following contacts with the Aryans and their customs. After a "long historical night" extending through 6th, 7th and 8th centuries, there was a period of cultural efflorescence and glory, during the 9th and 10th centuries. This revival saw the fusion

of the best ideas of both Dravidian and Aryan civilisations, education and learning. The construction of temples received a great fillip during this period. This was followed by a period of moral degeneration with the supremacy of the caste system very firmly established by the Aryans, the emergence of the Jenmi system of land tenure, and other changes which the Chera-Chola wars of the 11th century fostered. The political changes which followed the weakening of the imperial power of the Kulasekharas with their strong central administration, the emergence of minor principalities and kingdoms, quarrelling against one another and the foreign powers with their plans for colonial expansion all brought about further changes in the socio-economic life of the people.

1.4.1 The Sangam Age

During the Sangam Age the patrilineal system of inheritance was in vogue. The type of political institution was monarchy—but the monarch was a benevolent autocrat. Poets and scholars were given honoured place in the Courts of Kings. There was no division of people into caste and community. As Prof. Elamkulam Kunjan Pillai has observed (7) “The hall-mark of Dravidian culture was the absence of caste”. The Chaturvarna had not yet taken its hold and hence the social status of a person was not considered on the basis of his occupation which itself was determined by birth. Women were accorded a high status, with right to full education and freedom of movement. Child marriage was unknown and widow remarriage was permitted. In fact, (8) “the basic elements necessary for the flowering of complete culture were present in Kerala society even in the early Sangam age”. Though agriculture was the main occupation of the people, other occupations were also followed and both internal and external trade flourished.

1.4.2 The Age of Kulasekharas

The post-Sangam age is a dark period of Kerala history, with no tranquillity or settled life. Detailed and reliable information about life during this period is not available. But the period of the 2nd Chera Empire—that is the age of the Kulasekharas (800—1200 A. D.) saw remarkable progress in the social and economic conditions of the people. There was a well ordered administrative set up with the emperor called Perumal at the top of the hierarchy and feudatory Chieftains called Naduvazhis in charge of the provinces. Well equipped army and navy were maintained. There was a chain of developed ports along the coast through which brisk foreign trade was carried on. There were properly organised merchant guilds and trade corporations. It was during this period (9th century) that Malayalam began to shape

(7) Elamkulam P. N. Kunjan Pillai—Studies in Kerala History

(8) A. Sreedhara Menon—A Survey of Kerala History

itself into an independent language despite its overwhelming Tamil influence hitherto. Literary works of great repute in Tamil and Sanskrit, were produced during this period. The age of the Kulasekharas also saw the establishment of Hinduism as the predominant religion and the decline of Jainism and Buddhism. The construction of temples and shrines, which began to hold a very important place in the cultural life of the people, got great fillip during this period. This in turn led to the development of sculpture, painting and other arts associated with the temples. Education and learning blossomed during this period.

1.4.3 The Period of Chola-Chera War

The Golden age of the Kulasekharas came to an end during the 11th century, which witnessed a series of wars with the Cholas. This prolonged conflict led to the closing down of centres of learning, neglect of temples and introduction of compulsory military training. These in turn brought about far-reaching changes in the socio-economic conditions of the people. There was decline in foreign trade and economic prosperity. Again it was this war that led to the origin of the Jenmi system of land tenure,⁹ as many of the ordinary tenants transferred their lands to influential Namputhiri Brahmins and to temples, to get the benefit of exemption from tax and freedom from devastation by enemies. The political unity of Kerala also came to an end. To this was added the factors of discord which arose from the organisation of Hindu society on the basis of castes and sub-castes. The abnormal conditions of the Chera-Chola war also resulted in the replacement of the patrilineal or makkathayam system of inheritance by the matrilineal or marumakkathayam system. Though various theories are put forward about the origin of the system and the period of its introduction in Kerala, it is safe to conclude as A. Sreedhara Menon observes that (9) "the political and religious ascendancy of Namputhiri Brahmins during the Chola-Chera war, their rise to economic ascendancy as the Jenmis of Kerala, the introduction of compulsory military training and the formation of the CHAVER army to meet the threat of Chola invasion, were some of the compelling circumstances which brought about the adoption of marumakkathayam system by the people of Kerala in the 11th century A. D." The change over to the new system spread from North Kerala where the Namputhiris had the greatest power, to the south. The period of the switch over is after the 11th century and the rise of feudalism.

1.4.4 The Period of Foreign Contacts

This period saw further changes in the socio-economic conditions. During the interval between the fall of the 2nd Chera empire and the Portuguese period (13th to 15th centuries) the caste system and the

(9) A. Sreedhara Menon—A Survey of Kerala History

predominance of the Namputhiri Brahmin got more firmly established. The existence of several petty kingdoms and minor principalities cut at the very root of political unity. The revival of Hinduism, which started earlier got further tempo under the patronage of dominant rulers of Venad, Cochin and Calicut.

The coming in of the Portugese, followed by other western powers, opened a new epoch. Favoured treatment meted out to those who embraced Christianity, brought in a new element in the otherwise harmonious relationship which hitherto prevailed. The pattern of foreign trade changed, following the opening of the European market. Commercial cultivation of coconut and improved methods of cultivation of pepper and other spices were introduced by the Portugese. But corruption and nepotism became rampant in the administration. The Portugese period has been described as ⁽¹⁰⁾ "one of political violence, social decadence and economic depression".

The Dutch who came on the scene captured power from the Portugese. During the period of the Dutch supremacy (1663 to 1741), scientific cultivation and trade were given further impetus. They also started some new industries like salt farming and dyeing. But the Dutch contact did not make much impact on educational and cultural fields.

The tempo of socio-economic transformation, which began as a result of the long drawnout Chola-Chera war, in the 10th century, gained further momentum in the next six centuries (13th to 18th). This was the result of political disunity, internal quarrel among the local Chieftains, and the presence of foreign powers with their evil designs to establish their stronghold. The most important characteristics of these socio-economic changes, were the caste system which became widespread and deep-rooted, and the Jenmi system of land tenure which got firmly established. These two factors decisively changed the social structure to one of feudal nature. The other changes of the period deserving mention are, the marumakkathayam system becoming more prevalent, the social acceptance of polyandrous marriages among Nairs and a section of the Muslims, and the decline in moral character. Before the Jenmi and matrilineal systems, the moral standards in Kerala were high and this continued till the 11th century. Of these several changes, two important ones deserve special mention.

The subtle introduction of Chaturvarnya by the Aryans into the casteless Dravidian culture, took "half a dozen centuries or so" from 5th century, to get established in Kerala. The chasm among the different castes got further deepened during the period under consideration. The social hierarchy, with the Nampoothiris at the top, followed by the Nairs and then the Ezhavas in rank, and a host of other low

(10) A. Sreedhara Menon—A Survey of Kerala History

castes became the basis for the organisation of the society. The social evils of privileged status by virtue of birth in the higher caste, untouchability, child marriage, ban on widow remarriage, denial of education to the masses, restrictions on women, etc., were the off springs of the caste system. Kerala was enclosed in the straight jacket of this system during the period from 8th to 11th centuries.

The evil effects of the caste system got reinforced by the development of Jenmi system of land tenure. The social supremacy of the Nampoothiris under the chaturvarnya, became more pronounced and unquestioned with the passing of the land and control of temple properties to them under the Jenmi system. As already indicated in an earlier para, it was the Chola-Chera war that was responsible for the emergence of the Jenmi system which brought immense economic power to the Nampoothiris. It seems as if there was a grand alliance of two great evil forces—caste and Jenmi system—to cement the feudal system. This system typifies a social stratification in which wealth, education and power got concentrated in the hands of a few privileged sections, who exploited the majority of the intelligentsia. During this period, even slave trade became common in Kerala till it was abolished during the second half of the 19thth century. It took centuries before the intelligentsia could get out of the resulting mental slavery.

1.4.5 The Break up of Feudalism and the Rise of the Modern Era

The 18th century saw the consolidation of princely states of the South into Travancore. This along with the establishment of the British power, and the Mysore invasion of Kerala, led to further changes in socio-economic conditions. Beginning with the reign of Marthandavarma in Travancore (1729 to 1758 A. D.) administrative reforms, improvement of communication, introduction of irrigation works, and such other progressive measures got much fillip. Educational activities expanded and medical services improved during the reign of Sri Moolam Thirunal. The Mysorean invasion (1761—1790 A. D.) was not only a challenge to British power, but “sounded the death knell of the old social order” by shattering the myth of the social superiority of the upper castes, who were deprived of their privileges. The Mysorean invasion was responsible for the ruin of agriculture, it also brought about trade depression, and cultural stagnation. The establishment of the British power in the erstwhile Malabar led to starting of some new industries and plantations in that area. There was progress in the field of education also.

The 20th century saw the gathering of the forces of renaissance which began to be felt among the people in the 19th century, as a result of the educational activities of the western missions and influence of western culture. The introduction of English education under

British influence exposed the people to liberal ideas. Several social evils which existed made the backward communities restive. The agrarian unrest was also brewing. These led to several administrative and social reforms by the British and Indian administrators in the 20th century. Such attempts got a lided tempo by the further spread of education by the Christian missionaries and social reform movements by Chatampi Swamikal and Sri Narayana Guru in the South and Brahma Samajist in the North. The movements for, independence of India, eradication of untouchability, agrarian reforms, change in the laws of inheritance like marumakkathayam, etc., have led to the emergence of a new modern society which is egalitarian and progressive in its ideals. The introduction of adult franchise, following independence, the educational and economic advancement of the erstwhile lower castes and the land reforms effected in 1970, have dealt a heavy blow to the old social order and deprived the power of the land owning classes. A new order of society trying to progress along modern lines has been ushered in.

1.4.6 The Meeting Ground of Religions

An account of the changing socio-economic conditions will be incomplete, without touching on the interesting story of the intermingling of various religions—both native and foreign. The course of history has made this land the meeting ground of Jainism, Buddhism and Hinduism as well as of Christianity, Judaism and Islam. All these religions were welcomed into the social fabric, encouraged and absorbed to form a blended culture. In the Dravidian culture which existed before the intrusion of any of the above religions, there was no religion of any kind. There was only some kind of ancestral worship.

The first religion to make its inroad to Kerala (3rd century BC) was Jainism. After spreading itself to the various parts of Kerala—remnants of which are still left—Jainism began to decline by 8th century A.D. though it lingered upto 16th century. Buddhism made its appearance here, just after Jainism. Many Buddhist shrines and temples sprang up all over the country. This was due to the enlightened religious toleration of the Hindus. Later on Buddhism was absorbed in Hinduism by the gradual process of assimilation so assiduously effected by the latter. But quite unlike Jainism, Buddhism made a lasting impact on Kerala culture by its contribution to education and learning and its contribution of Ayurvedic system of medicine.

The Aryans with their superior intelligence, Brahmin predominance and the caste system made concerted efforts to undermine the hold of Buddhism and Jainism. In this they succeeded well. Sankaracharya who was born in central Kerala in the 8th century took the lead in the revival of Hinduism. The Aryans established Hindu temples and propagated the Bhakti cult which became very popular. The process

of Aryanisation reached its climax in the 18th century by which time they had completed the process of social assimilation and cultural synthesis with the Dravidians, who were brought into the fold of Hinduism.

The extensive foreign contacts, which the State had, led to the entry of religions of foreign origin. Both Christianity and Judaism made its appearance in the first century A. D. The Jews settled here, built their synagogues and prospered as a community. But they did not try at conversion of locals for spreading their religion.

But the introduction and spread of Christianity has a story different from that of Judaism. Under the patronage of the foreign powers, who held sway from time to time and the organized work of missionaries the Christian religion spread fast and brought into its fold larger and larger numbers. Their activities in the field of education, social work, commerce and business have enriched the culture of the land in several ways. The Christians on their part have adopted the language, dress and habit of the local Hindus, thus assimilating themselves completely.

By 7th or 8th century A. D. Islam also came to Kerala. Due to the traditional tolerance of the Hindu Rulers, who had extended a welcome hand to all religions, Islam also made progress and has come as the religion next in importance to Hinduism and Christianity.

The intrusion of various religions with their varying degrees of absorption by the Hindu religion, which itself has been moulded by a synthesis of the Aryan ideas of the North and the Dravidian ideas of the south, has contributed to the development of a composite culture, whose unique features are outlined below.

1.5 Cultural Traits

Though Kerala shares with the rest of the country the basic elements of Indian culture, there are certain cultural traits which are her own. The origin of our rich and varied heritage, which combines the traits of Proto-Austroids, Dravidians and Mediterraneans, can be traced back to 4000 B. C. The spirit of religious tolerance with cosmopolitan outlook of the people is one of these unique traits. No wonder this is so; for "under the shade of an uninterrupted toleration, rarely paralleled in the history of the world, several religions and communities have lived and developed these long centuries. (11) The remarkable comingling of races and religions from the distant past has implied such a spirit among the people. The extensive foreign contacts through trade have helped the development of a cosmopolitan outlook. This has been further fostered by the mobility of the people which

(11) General Report of Travancore - 1911 Census

takes them in large numbers to distant lands. The tendency on the part of those who go out, to return and settle in their native land after imbibing other cultures, results in further assimilation of new cultures.

The high status accorded to women in society is another noteworthy feature. As mentioned earlier this had been so even from ancient times. The women enjoyed freedom of movement, worked along with men and had the right to education even during the Sangam ages. It was only during the period of supremacy of the Nampoothiri Jenmis, when the iron grip of the caste system strangled society, that the high status accorded to women waned. This was due to the denial of education to women of lower castes and the notions regarding duties of women. However, the marumakkathayam system of inheritance, which came in the wake of the Chola-Chera war, contained features according high status to women like the practice of matrilocality (residence in wife's home). The changes which took place after the above interlude have again helped to restore the earlier high status to women in society. Women's education has spread fast in modern times.

Down through the ages our people have exhibited a love for art and architecture and a zest for music and dancing. These have been fostered by the legends and folklores handed down to posterity on the one hand and the innumerable temples all over Kerala around which our social and cultural life has centred. The temples in Kerala have played a significant role in the cultural progress of the people. These temples have been "not merely places of worship, but centres of education, asylums of refuge and the bastions of defence". (12) The temples grew in number enormously during the course of centuries. (13) In the Travancore portion alone, there were 22900 Hindu temples during the early decades of the 19th century.

The ancient temples of Kerala are a standing monument to the imagination, skill and proficiency of our people in architecture, sculpture and painting. A distinctive style of architecture suited to local conditions and reflecting the aesthetic sense of our people developed in the construction of houses and temples. The innumerable figures carved in stone pillars of the temples testify to the sculptural genius of our people. The frescoes of some of the temples prove their talent in painting. It is recorded that among the several south Indian workers who were engaged for the construction of the famous Angkor temple on the banks of Mekong river in Cambodia, in 9th century A. D., many were Keralites.

The temple premises provided a forum for various forms of dance, dance-drama and music. Dance forms such as Mohiniyattom, Ottan-thullal, Kurathiyattom, etc., each with a native hue and religious

(12) Elamkulam P. N. Kunjan Pillai—Studies in Kerala History

(13) Ward and Conner—Memoir of the Survey of Travancore and Cochin (1816-1820)

association, have developed during the course of centuries. The well-known Kathakali, an exquisite combination of dance, drama and music is a unique contribution of Kerala. Music had flourished from ancient times. The Carnatic Music, as also a local variant of this form—the Sopana method—has reached levels of high excellence. The variety of musical instruments that are native to Kerala, and the various combinations in which they are prescribed for different occasions, are formidable.

The several festivals and the ways of celebrating them though mainly originated from the agrarian way of life have acquired a religious tenor. They also provide entertainment to the people. Some of the important festivals are the Onam, Thiruvathira, Vishu, Karthikotsavam, etc.

Originating as an offshoot of Tamil, and influenced by Sanskrit and Prakrit, the language of Kerala—Malayalam—has developed into a rich and mature language, since its coming as an independent language in 9th century A. D. The introduction of the printing press in 1577 by the Portugese missionaries had a great impact on the development of Malayalam. A rich literary heritage has evolved during the course of centuries, with brilliant works in several branches of literature—beginning with Champus, Sandesa Kavyas, Attakatha, Tullal Songs and in modern times such branches as Novels, Short Stories, Drama, Lyrics, Literary criticism, Biography and Travelogue. Comprehensive works on Grammar, History of language, Scientific Dictionaries, and of late Encyclopaedias have developed. Modern literary works have fought against traditionalism and realistically depicted the life of the common man. The influence of these on the present political developments and dynamic social changes are easily visible. And the very latest literary output effectively voices the discontent among the youth and their zest for novelty. There is no gain saying the fact that the vibrant literary outputs have helped the transformation of basic social values, to suit the dynamic society to which we are heading.

The course of historical development unfolded in the above paras, and which was formed by internal wars and foreign intrusions, has obviously affected the size and quality of population. The nature of socio-economic changes brought about by the particular course of historical development and the cultural traits evolved, have mutually interacted, affecting the demographic factors such as fertility, mortality and migration, which change the size and characteristics of the population. These are discussed in the next Chapter.

CHAPTER II

DEMOGRAPHIC FEATURES OF KERALA

2.0 - Introduction

In the previous chapter an attempt has been made to present a brief picture of the geographical features and also of the development of historical and socio-economic conditions as well as cultural traits over the centuries. The relevance of presenting this is, that demographic behaviour, which results in growth or decline in numbers is conditioned by all the above factors. Though births and deaths are biological phenomena, they are to a great extent determined by socio-cultural, economic and environmental factors as well. This chapter will present the demographic features such as size, composition and distribution of the state's population and the changes in those factors over time as well as some of the socio-economic factors which influence the demographic features.

The interesting story of the early settlements and growth of population of Kerala—when people began to settle here and their numbers during different periods of time—is shrouded in still more obscurity than the history of the land itself. No wonder this is so, for as Elamkulam Kunjan Pillai observes, (1) “it is not possible to provide positive historical evidence to substantiate conclusions relating to population in ancient times”. However, on the evidence of microliths discovered in some places in Kerala, it is reasonably conjectured that men began to settle here towards the end of mesolithic age—that is about 4000 B.C., though man appeared on this planet at least 4 or 5 lakhs years ago, according to scientists.

2.1 Population Growth over the Years

Figures relating to the size of population with some exactitude can be obtained only through censuses. Censuses in the modern sense of the term, anywhere in the world, are not more than three centuries old, though the history of some kind of counting of one or other section of the population dates back to much earlier periods like 4000 B. C. As far as Kerala is concerned, in the three erstwhile constituent units of the present state, the first census was conducted at different periods of time—namely, in Malabar in 1802, in Travancore in 1816 and in Cochin in 1820. But regular decennial census began from 1831 before which four censuses in Travancore, five in Cochin and at least four in Malabar were conducted. But due to jurisdictional changes, differing dates of censuses and non-comparability arising from concepts and methods adopted, it is not possible to work out with any accuracy, the population of the area constituting the present state for the period prior to 1836.

(1) Elamkulam P. N. Kunjan Pillai—Studies in Kerala History.

As already mentioned, to make an estimate of the state's population with precision for periods before the commencement of regular censuses, is a hazardous one. In one of the articles regarding the population of Nampoothiris in "Studies in Kerala History", Professor Elamkulam Kunjan Pillai estimates that the population of Kerala in the 13th century might have been around 20 lakhs⁽²⁾. From scattered evidences, it is surmised that the population was 30 lakhs at the beginning of the 17th century and it rose to 45 lakhs by 1850. It is evident that the pace of growth during the period prior to the 20th century was very slow. For example, during the span of 250 years from the beginning of the 17th century to 1850, the increase in population was only 15 lakhs. Compared with it the increase is 44 and odd lakhs in just ten years during 1961-71. During the seventy year period of the present century, 1901-71 alone, the population has grown 233% from 64 lakhs in 1901 to 213 lakhs in 1971. The following table shows the growth of population in Kerala since 1836.

TABLE 2.1—GROWTH OF POPULATION IN KERALA

<i>Year</i>	<i>Population (in lakhs)</i>	<i>Decennial growth (%)</i>
1836	26.36	--
1875	50.60	..
1881	52.19	..
1891	58.23	+11.57
1901	63.96	+ 9.84
1911	71.48	+11.75
1921	78.02	+ 9.16
1931	95.07	+21.85
1941	110.32	+16.04
1951	135.49	+22.82
1961	169.04	+24.76
1971	213.47	+26.29

As may be seen from the above, both the absolute size and the rate of growth have been increasing ever since 1901 onwards except for two breaks between 1911-21 and 1931-41. A comparison with the growth of India's population shows that the break of decline in population noticed in the case of India in 1921 is not seen in the case of Kerala. For every decade the rate of growth is higher too. During the seventy year period of the present century from 1901, as against the 233% increase in Kerala, India's population grew only by 132%. The decennial percentage variation for every census decade of Kerala is higher than that of India as may be seen from Appendix A—Table 1. It is also worth mentioning that while Kerala's population of 1901

(2) Elamkulam P. N. Kunjan Pilli—Studies in Kerala History.

doubled in a period of less than 50 years, that of India had not doubled even in 60 years. During 1941-51 Kerala had topped the list of states with nearly 23% decennial variation. But in the next decade 1951-61, the corresponding figure for Kerala was 24.8% and this was less than that of Assam, West Bengal, Gujarat, Rajasthan and Punjab. However, during the latest decade of 1961-71, 12 of the states had higher growth rate than Kerala's 26.3%.

2.2 District-wise Variations

Within the state, there is considerable variation in growth rate among the Districts. During the decade 1961-71, the northern districts of Malappuram, Kozhikode and Cannanore registered higher rates of growth (decennial percentage variation) than the southern districts (Trivandrum and Quilon). In the previous decade the latter districts had shown higher rates of growth than the other districts. The decennial variation shows that the rates for Palghat and Alleppey districts are much lower than those of other districts. Detailed data for the period 1901-1971 is given in Appendix A—Table 2.

2.3 Unique Features of the State's Population

The uniqueness of Kerala in her geographical, historical, socio-economic and cultural features, presented elsewhere, is also reflected in her demographic developments and characteristics. As already mentioned, the rate of growth has always been higher than that of India. The over-all density of population of the State - 549 per Sq. Kilometres is the highest among the States of India. The sex ratio of Kerala shows an excess of females. The sex ratio reached a high figure of 1028 in 1951 but came down to 1022 in 1961 and to 1016 in 1971. The death rate of the State is the lowest among the Indian States. The expectation of life at birth of females is higher than that of males. In this respect, Kerala is different from India and other States, and resembles many of the advanced countries of the world. The marital status distribution is marked by a very low percentage of married women in the 15-19 age group, compared to the rest of India. The average age at marriage of females in Kerala is also the highest. Again, the level of general literacy is the highest among the States in India and is double that of India. The female literacy of the State is nearly three times that of India. The level of urbanisation measured in terms of the proportion of urban population in 1971 (16.2%) is lower than that of India (19.9%). The settlement pattern, consisting of scattered dwellings each with its own compound, is quite different from the rest of India, where the villages are residential groups, comprising "an aggregate of individuals involved in a common collective life process".⁽³⁾ Besides the villages are much larger in population size than in other States. The religious composition is marked

(3) N. Krishnan Nambodiri—Census of India 1961—The Changing Population of Kerala.

by a much higher proportion of Christians (21% in 1971) than found in any other State (except some of the North Eastern States). In India as a whole, the Christians form only 2.6%.

2.4 0. Distribution of Population

The pattern of distribution of population among the aerial units—either administrative or natural—of a State/Region/Country depends on a variety of factors. Some of these are the climatic conditions, configuration of surface, rainfall, irrigation, quality of soil, political and historical accidents, prevalence of diseases, facilities of communication, reach of markets etc. When the population of a particular aerial unit reaches a certain size, it is further increased by the establishment of offices, temples, churches etc. Changes in economic structure, resulting from developmental activities also lead to redistribution of population among the various aerial units.

As already noted, each of the three natural divisions of the State—namely High, Mid and Lowland—has distinctive physical and geographical features. The distribution of the total population of these divisions is quite disproportionate to the area under these divisions. The distribution of population according to the natural divisions, as per 1971 census is given below:

TABLE 2.2—AREA, POPULATION, DECENNIAL GROWTH AND DENSITY OF NATURAL REGIONS

<i>Natural Division</i>	<i>Area in Sq. Kilometre</i>	<i>Population (in lakhs) 1971</i>		<i>Decennial growth rate % 1961-71.</i>		<i>Density per Sq. Kilometre</i>
		<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	
Highland	18653.5	48.0	32.1	15.1	37.8	172
Midland	16231.2	41.8	126.3	59.1	24.9	778
Lowland	3979.3	10.2	55.1	25.8	23.2	1385
Kerala State	33364.0	100.0	213.5	100.0	26.3	549

The relative proportions of area and population are revealing. With 48% of the area the highland accommodates only 15.1% of population, but the lowland with 10.2% of the area accommodates 25.8% of the population. A comparison with 1961 shows that the proportion of population in the highland has increased from 13.8% to 15.1% and that

of lowland has decreased from 26.5% to 25.8%. Besides, during every decade beginning from 1921, the highest decennial growth rate has been that of highland, which "seem to be the result of net emigration from lowland region to midland region and perhaps from both to the highland region". (4) The spillover from the lowland (which has reached saturation point of population pressure) to highlands, where fresh lands are available for conversion into cultivable lands, is evident from the differences in growth rate among the regions.

2.4.1 Distribution of Population in Districts and Taluks

The natural divisions cut across most of the districts—except that there is no lowland in Palghat and Idukki districts and no highland in Alleppey district. The percentage distribution of population in the districts shows that Quilon leads in population size, closely followed by Cannanore. The district with the smallest population size is Idukki. The relevant data are given in the following table:

TABLE 2.3—PERCENTAGE DISTRIBUTION OF POPULATION AMONG THE DISTRICTS OF KERALA 1971

<i>District</i>	<i>Area/Sq. Kilometre</i>	<i>Population (in lakhs)</i>	<i>Percentage to total</i>	<i>Density per Sq. Kilometre</i>
(1)	(2)	(3)	(4)	(5)
Trivandrum	2192.0	21.99	10.30	1003
Quilon	4623.0	24.13	11.30	522
Alleppey	1884.0	21.26	9.96	1128
Kottayam	2195.5	15.39	7.21	701
Idukki	5087.1	7.66	3.58	150
Ernakulam	2377.4	21.63	10.13	910
Trichur	3032.0	21.29	9.98	702
Palghat	4400.0	16.85	7.89	383
Malappuram	3638.0	18.56	8.70	510
Kozhikode	3729.0	21.06	9.87	565
Cannanore	5706.0	23.65	11.08	415
Kerala	38864.0	213.47	100.00	549

(4) N. Krishnan Namboodiri—Census of India 1961—The Changing Population of Kerala.

Leaving the larger units of administration namely districts, if one looks at the distribution of population among the 57 taluks of the State, one finds that in 1971 there are six taluks, each of which exceeds 6 lakhs population and together account for 20.4% of the total population and 15.1% of the total area. The changes in the distribution of taluks by population size from 1961 to 1971 may be seen from the following table. The taluks with population of 6 lakhs and above have increased in number while the number of those with less than one lakh has become nil. The following table shows the changes during the ten year period.

TABLE 2.4—DISTRIBUTION OF TALUKS ACCORDING TO POPULATION
KERALA 1961 AND 1971 CENSUS

<i>Population</i>	<i>1971 Census</i>			<i>1961 Census</i>		
	<i>No. of taluks</i>	<i>Total population in lakhs</i>	<i>% to total population</i>	<i>No. of taluks</i>	<i>Total population in lakhs</i>	<i>% to total population</i>
Below one lakh	..	..	..	2	1.80	1.07
1—2 lakhs	3	12.10	5.67	8	13.02	7.70
2—3 „	13	34.17	16.00	16	40.16	23.75
3—4 „	15	51.45	24.10	19	62.78	37.14
4—5 „	10	44.59	20.89	5	22.84	13.51
5—6 „	5	27.62	12.94	4	21.84	12.92
Above 6,,	6	43.54	20.40	1	6.60	3.91
Total	57	213.47	100.00	55	169.04	100.00

2.4.2 Rural-Urban Distribution

According to 1971 Census, 84% of the total population is rural and 16% urban. Over the years, the percentage of rural population has been decreasing and the urban percentage increasing, as may be seen from the following table.

TABLE 2.5—RURAL-URBAN POPULATION AND THEIR PERCENTAGE TO TOTAL POPULATION, KERALA

<i>Year</i>	<i>Rural</i>		<i>Urban</i>	
	<i>Population (in lakhs)</i>	<i>% to total population</i>	<i>Population (in lakhs)</i>	<i>% to total population</i>
1901	59.42	92.9	4.54	7.1
1911	66.23	92.7	6.25	7.3
1921	71.56	91.7	6.46	8.3
1931	86.40	90.9	8.67	9.1
1941	99.03	89.8	11.28	10.2
1951	119.58	88.3	15.91	11.7
1961	143.50	84.9	25.54	15.1
1971	178.81	83.7	34.66	16.2

The villages are large in population size—63.7% of the 1268 revenue villages (excluding 58 which are wholly within towns) each have a population of 10,000 and above, and 24.9% each have population above 5,000 but below 10,000. Only 11.4% of the villages are having population below 5,000.

As for urban population, they live in 88 towns of which 3 are Corporations and 29 are Municipalities, as per 1971 census. There are only 5 towns with population exceeding one lakh—and in these five towns live 14.7 lakhs (or 42.3%) of the urban population. This proportion was only 27% in 1961. It may be noted that the pace of urbanisation, as commonly understood, is slow in Kerala. Further, due to the peculiar settlement pattern and extension of modern facilities to rural areas, the differences between rural and urban areas are not much significant in Kerala.

2.4.3 Density of Population

The overall density which shows the average number of persons per unit of land, is a rough indicator of the changing pressure of population on land, though a high density is not incompatible with a high standard of comfort and a low density might sometimes imply as much pressure as a high one. Due to the continued increase in population size within a finite area the density has registered a steady increase. The 1971 density of 549 per Sq. Kilometre is more than three times

that of India. It was only 68 in 1836 and 165 in 1901. The variation in density among the three natural divisions is considerable—this being 172 persons per Sq. Kilometre in highland, 778 in midland and 1385 in lowland. Similar variation in density is to be found among the Districts—from 150 in Idukki to 1128 in Alleppey, the district which “eclipses all the districts in the State”. The variation in density among the districts during the different census years of the present century may be seen from Appendix A—Table 3.

As far as the taluks are concerned, the density range varies from below 250 in 8 taluks to above 1500 in 7 taluks. 34 taluks out of 57 in the State have a density above that of the State. Nearly 40% of the population live in 23 taluks, whose density ranges from 251 to 750. The distribution of taluks by density range is given below:

TABLE 2.6—DISTRIBUTION OF TALUKS BY DENSITY RANGE, KERALA 1971

<i>Density</i>	<i>No. of Taluks</i>	<i>Total population (in lakhs)</i>	<i>Percentage to total population</i>
Less than 250 persons per Sq. Kilometre	7	16.20	7.59
251—500	12	44.38	20.79
501—750	11	40.88	19.15
751—1000	10	46.95	21.99
1001—1250	7	23.76	11.13
1251—1500	3	10.45	4.90
Above 1500	7	30.85	14.45
Total	57	213.47	100.00

2.4.4 Areality and Proximity

These two indicators are also commonly used to show the extent of pressure on land and the nature of distribution of persons within the land. Areality is the converse of density and gives the average area available for each individual. The change in this regard over the years may be seen from the following table:

TABLE 2·7—AVERAGE AREA OF LAND PER HEAD, KERALA 1901-71

<i>Year</i>	<i>Area per head</i>	
	<i>In acres</i>	<i>In hectares</i>
1836	3·64	1·47
1875	1·90	0·77
1881	1·84	0·74
1891	1·65	0·67
1901	1·50	0·61
1911	1·34	0·54
1921	1·23	0·50
1931	1·01	0·41
1941	0·87	0·35
1951	0·71	0·29
1961	0·57	0·23
1971	0·44	0·18

Source: Census of India 1961—Vol. VII—Kerala Part I A (i) General Report (except for 1971).

If the actual cultivated area (net area sown + current fallow + area under tree crops) alone is taken into account, the per capita availability is as small as 0·32 acres in 1961 and 0·27 in 1971. The increasing pressure on land due to the rise in population over the years is evident. Proximity indicates the distance between persons on the assumption that the individuals are occupying the corners of equilateral triangles into which the area of the State is supposed to be divided. The increase in the degree of concentration of population can be seen from the following data on proximity over the years.

TABLE 2·8—PROXIMITY (AVERAGE DISTANCE) BETWEEN TWO PERSONS, KERALA 1901-1971

<i>Year</i>	<i>Proximity in</i>	
	<i>Metres</i>	<i>Yards</i>
1836	130·47	142·68
1875	94·17	102·99
1881	92·72	101·40
1891	87·78	96·00
1901	83·75	91·59
1911	79·23	86·65
1921	75·83	82·93
1931	68·70	75·13
1941	63·77	69·74
1951	57·55	62·94
1961	51·52	56·34
1971	45·85	50·14

Source: Same as for Table 2·7.

The closeness in which individuals are forced to live is obvious from the steady decline in proximity.

In general it may be stated that there is great unevenness in the distribution of population among the various areal units, whether formed on a natural division basis or administrative basis. The steady increase in density and the decline in proximity indicate the growing concentration of population over the years. Recent developments in the matter of industrialisation on the one hand and the policy of extending transport, communication, education and health facilities even to remote rural areas on the other hand seem to exert opposing influences on the redistribution of population.

2.5.0 Composition of Population

The study of population is not only one of growth or decline in numbers or of distribution. The structure or composition of a population on the basis of distinctive traits is an important area of study. This is so because, the composition of a population at any point of time has important demographic, social and economic consequences. Further the age structure of a population at any point of time, is not only the result of past demographic performance in terms of births, deaths and migration, but also the determinant factor of future births and deaths and thus the course of demographic behaviour. Similarly, the sex composition with relative shortage or excess of males or females in the relevant age groups, has important sociological consequences in supplying marriage partners and economic consequences in providing the labour force. Both age and sex composition, along with other socio-economic conditions in the sending and receiving countries/regions, determine the extent of migration which is highly selective in respect of age and sex. Again, the marital status composition of a population and the changes therein significantly influence the fertility behaviour of any population, in which normally reproduction takes place only through marriage. Even the composition of a population on the basis of education, occupation, or religion, has far-reaching effects on the course of fertility and mortality and thus on the growth or decline of population. In view of this importance, it is quite relevant to examine in detail the composition of Kerala's population, in terms of some of these important traits.

2.5.1 Sex Composition

The division of a population based on the biological trait of sex, is the simplest means of study of composition. The number of males and females is not matched in most of the populations. Though nature starts with a partiality for males—more male babies than females being

born the world over—this superiority in numbers gets depleted in course of time, due to the differential rates at which the members of each sex are subjected to mortality. In all the developed countries of the world, the average expectation of life at birth for females is markedly higher than for males. This feature is not usually seen in developing countries, where the maternal mortality is very high and where there is relative neglect of female babies. The resulting imbalance is aggravated by the differentials in migration, in which normally more males are involved. The interplay of all these forces is seen in the sex composition of the population of Kerala. There are more females than males in Kerala. This has been so ever since the turn of the century. The sex ratio (expressed as the number of females per 1000 males) is 1016, according to the 1971 census. The variation in sex ratio among the districts in 1971 ranges from 976 in Kottayam to 1081 in Trichur. The relevant data showing the change in sex ratio of the State and the districts over the years is given in Appendix A-Table 4. The superiority in number of the females in the State's population is accounted for by the outmigration of more males and the longer life expectancy of females. The outnumbering of females is confined to the middle age group of 15-34 when normally more of males outmigrate and in the higher age groups from 50 and onwards.

2.5.2 Age Composition

Barring sex, the most important demographic factor that determines the role and status of an individual is his age. The years over which an individual passes through infancy, childhood, adulthood and old age are determined at the moment he is born. Just as age is important for the individual, the age of a population is of great significance. By the age composition of a population is meant the distribution of the population in various age groups. This is also known as age structure.

The proportions in different age groups determine the relative numbers of young, adult and old people and thus decide the relative numbers available for work and the number of dependants to be cared for.

The population of Kerala—as also of India—is young. A young population is one in which there is a predominance of young people. For instance, according to the 1971 census 40.3% of the State's population is below 15 years of age. The corresponding figure for India is 42.6. In 1961, the percentage below 15, in the State's population was 42.6. Though a slight reduction in the percentage 0-14 is noticed between 1961 and 1971, the proportion of young is still very high. This is the result of fast declining infant mortality, with no appreciable reduction in fertility, which the State experienced during the decades 1951-71. A population which experiences the above pattern of growth for some years is bound to have an age structure with large percentage of young people. In contrast, the proportion of

this young age group in many of the developed countries ranges from 25 to 30% only. As against the high proportion of young, at the other end of the age scale, the percentage in the advanced age groups of 60 and above is only 6.2. The corresponding figure for advanced countries is 12 to 15%.

The type of age structure described above has some important socio-economic consequences. Obviously the number of dependants is very large—especially the young dependants. This acts as a heavy burden for those in the working age group. In fact, for every 100 persons in the working age group of 15–59, there are 87 dependants. This naturally necessitates expansion of educational and health services, adversely affecting the saving potential of the people and the Government. The proportions in age groups as per 1971 census are given below:

TABLE 2.9—AGE DISTRIBUTION OF POPULATION, KERALA 1971

<i>Age group</i>	<i>Percentage to total population</i>
0–14	40.26
15–19	10.95
20–24	9.32
25–29	6.50
30–34	5.67
35–39	5.99
40–44	4.15
45–49	4.51
50–54	3.24
55–59	2.68
60+	6.23

Change in the proportions may be seen in Appendix A–Table 5. The number and percentage age distribution by sex may be seen in Appendix A–Table 6.

2.5.3 Marital Status

At any point of time, every member of a population, belongs to one or other marital status like unmarried, married, widowed, divorced or separated. The relative proportions under these categories are the combined result of incidence of and age at marriage, mortality among the spouses and incidence of divorce or separation.

The broad distribution by marital status, shows that in 1971 35.1% of males and 36.0% of the females are married. The corresponding figures for 1961 census are 35.2% for males and 36.5% for females.

Very little change in overall percentage is seen during 1961-71. The 1971 data on the percentage of widowed between males (1.2%) and females (9.0%) show considerable difference. The higher proportion of widowed females is the result of favourable female mortality, which enhances the chances of women entering widowhood much more than men. In respect of divorced and separated also, sex differential is noticed—0.3% for males and 1.7% for females. Details may be seen in Appendix A—Table 7.

Some of the salient findings from other studies for the period up to 1961 shows that there is practically no difference in the percentage of women aged 35 or above remaining single between 1911 and 1961, but proportion of widowed or divorced of both males and females had declined very much. Further, the percentage of never married among males and females of 15 years age and over, was higher in urban than in rural areas in 1961. Moreover, the proportion of never married women in the fertile age group of 15-24 was found to be higher than in most of other States in 1961.

The average age at marriage of females has steadily increased from 17.1 during 1901-1910 to 19.9 during 1951-'60. The figures (5) for 1971 are 20.9 for females and 26.3 for males. The age at marriage for both males and females of Kerala is the highest among the States of India both in 1961 and 1971. Rural-urban difference in average age at marriage for females in 1971 is not very significant—21.6 for urban and 20.7 for rural.

2.5.4 Literacy

The classification of population on the basis of educational attainment is an important item in studying population composition. This is because education is a key variable in the social and economic progress as well as demographic performance of a people. Educational attainment is a powerful factor influencing all the three components of population change, namely, fertility, mortality and migration. Judging from the simplest measure of the level of education—namely, literacy—Kerala has been in a leading position among the States of India both during 1961 and 1971 census. The 1971 rate for the State is double that of India. According to 1971 census, 60.2% of the total population are literates as against 46.9% in 1961. Literacy among males has always exceeded that of females. The male and female literacy for 1971 are 66.5% and 53.9% respectively. This difference has been narrowing down over the years. This sex differential in literacy is very small compared to other States. Though the literacy rate has been steadily

(5) P. Goyal—Demography—India, Vol. 4, No. 2 December 1975.

increasing in the State as a whole and also in different regions, the literacy rate of Malabar area had always been lower than that of the rest of the State.

The rural-urban difference in the matter of literacy is also the lowest in Kerala. According to 1971 census among the districts, Alleppey has the highest literacy rate (70.4 %) and Palghat the lowest (46.7 %). (See Appendix A—Table 8).

Incidentally it may be mentioned that the educational advancement of the State has been quite impressive during the recent decades. There were 1666 High Schools, 2742 Upper Primary Schools and 6941 Lower Primary Schools in the State during the academic year 1976-77. During the same year the total number of students was 53.5 lakhs.

2. 5. 5 Religion

The religious composition of the State's population is marked by a higher percentage of Christians than found in other States. According to the 1971 census their percentage is 21.1, while the Hindus form 59.4% and Muslims 19.5%. As may be seen from Appendix A—Table 9, the proportion of Hindus to total population has steadily declined from 68.4% in 1901 to 59.4% in 1971. On the other hand, the proportion of Christians has increased from 13.8% to 21.1%. The proportion of Muslims has remained more or less steady around 17 per cent during 1901-1961, with a slight rise in 1971.

Within the State, there has been significant regional difference in the religious composition. There is relative concentration of Muslims in the erstwhile Malabar area and of Christians in Travancore-Cochin area. In 1941, the Muslims formed about a third of the population of Malabar, but only 2% were Christians; in 1971 the percentage of Muslims rose to 34.4% and of Christians to 5.5%. In the Travancore-Cochin area in 1971, Christians form 30.3% while Muslims constitute only 10.5%. Malappuram district in the Malabar area has the highest percentage of Muslims compared to any other district in India.

2. 5. 6 Economically Active Population

The changes over-time in the composition of a population on the basis of "workers" and "non-workers" and the distribution of workers in the various industries and occupations will throw light on the shifts taking place in the economic structure. As such, this aspect is of special importance for development planning and for assessing effect of development programmes.

Of the total population of a Country/State/Region, only a section will be engaged in economic activity—that is the production of goods and services—though, the entire population will be consumers of goods and services. Though data on the type of economic activity have been collected during all census, changes in concepts, definitions and procedures, render comparison difficult. However, reclassification on the basis of “workers” and “non-workers” as conceived in 1961 census has been made. According to this, the overall participation rates—that is the number of workers per 100 population—for the various years up to 1961 are given below:

TABLE 2.10—PARTICIPATION RATES BY SEX, KERALA

<i>Year</i>	<i>Both sex</i>	<i>Males</i>	<i>Females</i>
1901	44.5	56.3	32.7
1911	41.3	53.8	28.9
1921	37.9	51.1	24.9
1931	42.9	50.0	35.9
1941	..	..	..
1951	32.3	46.7	18.3
1961	33.3	47.2	19.7

Source: N. Krishnan Namboodiri—Census of India 1961—The Changing Population of Kerala.

The corresponding participation rates for 1971 are 29.1% for both sexes—45.0% for males and 13.5% for females. The overall rate is lower than the corresponding rate for India which is 32.9%. This has been so during all the previous decades (1901–1961). The too low rates as compared to 1961 are partly the result of changes in concepts and definitions between 1961 and 1971. Even with this limitation, the decline in the overall participation rate should give room for concern. It is quite possible that part of the decline may be due to factors associated with economic development like progress in education, technological changes, etc.

The distribution of workers in the various categories based on the type of work and the changes in the distribution between 1961 and 1971 may be seen from the following table:

TABLE 2.11—DISTRIBUTION OF WORKERS BY TYPE OF WORK,
KERALA 1971 AND 1961 CENSUS

<i>Industrial category</i>	<i>% of workers to total workers 1971</i>	<i>% of workers to total workers 1961 •</i>
I. Cultivators	17.80	20.9
II. Agricultural labourers	30.69	17.4
III. Livestock, Forestry, Fishing, Hunting and Plantation etc.	7.00	..
IV. Mining and quarrying	0.48	8.6
V. Manufacturing, Processing and Repairs		
(a) Household industry	4.28	..
(b) Other than household industry	11.45	18.1
VI. Construction	1.73	1.3
VII. Trade and Commerce	9.10	5.7
VIII. Transport, Storage and Commu- nications	3.89	2.7
IX. Other services	13.58	25.3
Total	100.00	100.00

The largest category of workers comes under agricultural labourers followed by cultivators. The increase in the proportion of agricultural labourers and reduction in "other services" between 1961 and 1971 is not easily accountable. It is worthwhile to mention that, according to the analysis of the industrial composition of Kerala for the period 1901 to 1961, as compared to All India, made by Dr. N. Krishnan Namboodiri, (6) "Kerala became more and more dissimilar to all India with respect to the Industrial composition of workers" The important features of the change in the industrial composition over the years are, the steady decrease in the proportion of male workers engaged in cultivation, and a steady increase in the proportion of male workers engaged in "other services".

The proportions in other categories are more or less stable. Lack of any consistent trend in the share of the female working force

(6.) N. Krishnan Namboodiri—Census of India 1961—The Changing Population of Kerala.

under the various categories is also seen. The trends are indicative of the inability of the agricultural sector to absorb additions to the labour force (due to high population pressure on cultivable land) on the one hand and the limited capacity of the manufacturing sector to absorb its proportionate share of additions to the labour force on the other; this forces the surplus labour to the lowpaid services sector, which gets swelled up. The conclusion reached by Dr. Namboodiri after detailed analysis is worth quoting—"the particular trend observed in the industrial composition of Kerala's working force largely stemmed from stagnation in Kerala's economy rather than from technological improvement and economic expansion".

2.6.0 Components of Population Growth

The growth of population experienced by the State during the present century and described earlier, is the result of the interplay of the three factors, which normally affect the growth or decline of any population. These are fertility, mortality and migration. Each of these in turn is affected by a number of complex socio-economic, cultural, biological, environmental and other factors, and above all, the above three factors themselves influence each other. Hence, the proper understanding of the demographic situation of a State/Region requires the study of the demographic developments, in terms of fertility, mortality and migration. This is attempted in the following paragraphs.

2.6.1 Fertility

Reliable data on the past fertility of Kerala are hardly available. Data that are helpful in estimating the level and trend of fertility of a population, and the changes therein are those relating to the number of births which take place every year and the detailed classification of the population which is exposed to the risk of giving those births. From these, several fertility measures could be calculated the simplest is the crude birth rate, which indicates the number of births per 1000 population in an year.

The census estimates of birth rates for the decades beginning from 1931 till 1961 show that there has been very little change in the birth rate. The figures given below show that during the period 1931-1961 birth rate had come down only by 1.1 point. It is also seen that these census estimates of birth rates for Kerala are lower than that of India.

TABLE 2.12—CENSUS ESTIMATES OF BIRTH RATES—KERALA AND INDIA

<i>Period</i>	<i>Kerala</i>	<i>India</i>
1931—40	40.0	45.2
1941—50	39.8	39.9
1951—60	38.9	41.7

But the above official estimates are considered as underestimates by various scholars. After estimating the birth rates and other measures from all available data, and examining the conflicting evidences, Dr. Krishnan Namboodiri, has come to the conclusion, (7) "that prior to 1941 the crude birth rate of the population was of the order of 45 births per 1000 population and that during the period 1941-61, a slight decline in the birth rate might have taken place ; but it is unlikely that the rate had gone below 40 by 1961. "

Coming to recent years reliable estimates of annual birth and death rates are available from the Sample Registration Scheme (SRS) which was introduced throughout the country since 1965. The SRS provides data on birth rate for the years from 1966 onwards and these are given below :

TABLE 2.13—SRS ESTIMATES OF BIRTH RATES, KERALA

<i>Year</i>	<i>Birth rate</i>	
	<i>Rural</i>	<i>Urban</i>
1966	37.38	..
1967	36.30	..
1968	34.33	..
1969	33.30	..
1970	32.26	30.90
1971	31.88	30.20
1972	32.09	29.50
1973	29.91	28.80
1974	26.96	26.90
1975	28.17	27.40
1976	28.45	26.40

(7) N. Krishnan Namboodiri—Census of India 1961—The Changing Population of Kerala.

The above estimates show that a gradual decline in birth rate has set in from the mid 1960's which is gaining momentum in the 1970's.

As the birth rate by its very nature is only a crude indicator of fertility, it is worthwhile to examine some other refined measures. The general fertility rate (GFR) gives the number of live births per 1000 women aged 15-44, who alone are exposed to the risk of giving births. The trend of GFR is given below :

TABLE 2.14—GENERAL FERTILITY RATE, KERALA

<i>Period/Year</i>	<i>GFR</i>
1951-60	182.1*
1965-67	158.8**
1971	127.4**
1972	126.7**
1973	117.1**
1974	104.0**
1975	108.6**
1976	109.0**

* Census estimate

** SRS estimate (Rural)

During the 15 years (1956-71) the GFR has declined by 30%. The decline in birth rate during the same period is only 18% (from 38.9 to 31.9).

Since fertility varies with age and the proportions married within each age, two other measures are also relevant in the consideration of fertility. These are the Age Specific Fertility Rate (ASFR) and the Age Specific Marital Fertility Rate (ASMFR). The ASFR indicates the number of live births in an year per 1000 women in each age group within the reproductive period of women (15-44 or sometimes considered as 15-49). The ASMFR indicates the number of births in an year per 1000 married women of each age group. The data from the SRS for the recent years are given in Appendix A—Tables 10 & 11. The following table gives the data for three years during the different periods of the past two decades.

TABLE 2.15—AGE SPECIFIC FERTILITY RATES, KERALA

<i>Age group</i>	1958-59 <i>NSS</i> 14th <i>round</i>	1971 <i>SRS</i> <i>rural</i>	% de- clin. (1958-59 to 1971)	1975 <i>SRS</i> <i>rural</i>	% decline 1971-75
15-19	87.5	48.4	44.7	42.0	13.2
20-24	237.9	210.8	11.4	189.0	10.3
25-29	291.8	223.3	23.5	195.7	12.4
30-34	205.0	173.2	15.5	134.8	22.2
35-39	161.8	116.7	27.9	95.0	18.6
40-44	46.7	42.8	8.4	29.9	30.1

The effect of the gradual decline in fertility which set in during the mid 1960's, is seen reflected in varying degrees among the different age groups. The highest decline is in the age group 15-19—evidently due to the declining proportion getting married from this age group, as a result of rise in age at marriage. As against this, there is very little decline in the next age group 20-24. Most of the newly weds falling into this age group are not likely to delay their first child. A large part of the decline in the higher age groups ranging from 8.4% to 27% is likely to be the result of Family Welfare Programme (FWP). This is in keeping with the age distribution of sterilised persons for the period 1957-67 to 1969-70, which shows that 92% Vasectomies and 55% of Tubectomies were done on persons in the age group 30-44. The pattern of fertility decline among the various age groups has changed during the period 1971-75, higher percentages of decline being noticed in all the higher age groups from 30 to 44. In the peak fertility age groups of 20-24 and 25-29 the decline is only nominal. This is as it should be, for permanent family limitation is not likely to be adopted on a large scale by persons in these age groups. The extent of decline in the 15-19 age group during the period 1971-75 is very much less than during the previous period (1958-59 to 1971).

As reproduction takes place through marriage, the real fertility performance of a population, could be measured by a rate, which takes account of only the married women. The ASMFR is such a measure. The following table provides data on ASMFR for some years since 1958-59.

TABLE 2.16—AGE SPECIFIC MARITAL FERTILITY RATES—KERALA

Age group	1958-59 NSS 14th round*	SRS (rural) 1975**	% decline
15-19	307.0	295.4	-37.8
20-24	329.5	339.9	+ 3.1
25-29	347.0	239.4	-31.0
30-34	243.8	157.7	-35.3
35-39	193.8	111.7	-42.4
40-44	63.5	37.2	-41.4

* Adjusted to 1961 proportion married

** Do. 1974 proportion married of SRS

During the period of one and half decades, there has been appreciable decline in marital fertility rate in all the age groups except 20-24, where there is a very slight increase. The reduction in the higher age groups, could be due to sterilisation and other methods of family limitation. Other relevant fertility measures are the gross reproduction rate (GRR) and the net reproduction rate (NRR) both of which indicate the extent of replacement of one generation of mothers by the next. The GRR does not take into account mortality. As such, it implies the number of female children that a mother would give birth to, by the time she reaches the end of her reproductive period without facing mortality. This rate for the period 1951-60 is 2.49 for Kerala as against 2.7 for India. Based on sample registration data, the GRR for 1968 and 1969 are 2.2 and 2.1(8) respectively. This rate has come down to 2 during 1971 and to 1.67 by 1975, while the NRR for the same year is 1.45.

2.6.2 Mortality

It is by now well recognised that the extent of mortality is influenced by the environmental conditions of the locality and socio-economic conditions of a people. Further, the effect of mortality on the different age groups of the population also varies, as many of the morbidity conditions are selective with respect to age. Though mortality has been studied from earlier times than fertility, the availability of reliable data about mortality conditions is not any better for earlier periods. However, indirect evidences thrown up by census data show that there has been steady improvement in mortality conditions in the State—especially in the Travancore-Cochin portion of the State—from 1931 onwards. The plentiful supply of water and the scattered nature of the houses have been conducive to high standard of environmental hygiene. The high level of personal hygiene has been supported by the high level of literacy attained in the State from an earlier period. Public health and other health service facilities also are much more developed in this area. All these have contributed to the warding off of epidemics.

Some of the measures of mortality, which would indicate the extent of improvement in mortality are, the crude death rate, infant mortality rate, age specific death rates and expectation of life at birth. These are considered in the following sections.

The death rates obtained from civil registration are not dependable, due to the deficiency of registration. The census estimates provide the data for the decades. These are given below along with the SRS (Rural) annual estimate for recent years.

(8) Registrar General of India—Measures of Fertility and Mortality in India—S.R.S Analytical Series No. 2, 1972.

TABLE 2.17—DEATH RATES—KERALA

<i>Period/Year</i>	<i>Death rate</i>
1931-40	25.0
1941-50	20.0
1951-60	16.1
*1966	10.5
1967	10.1
1968	10.4
1969	9.8
1970	9.3
1971	9.2
1972	9.4
1973	8.7
1974	8.0
1975	8.5
1976	8.2

* 1966 to 1976—SRS rural

As may be seen from the above, the death rate has come down to very low levels. Compared to India the rates are much lower. During the decade 1931-40, the death rate for India was 31.2. In 1972 the Kerala rate is only half of that for India.

The infant mortality, which normally accounts for heavy toll of life, has registered a still greater fall. This is evident from the following, even though the estimates for earlier periods are of doubtful validity. The infant mortality rates of earlier decades used for the preparation of life tables constructed by the Bureau of Economics and Statistics are given below. Though some arbitrariness could not be helped in arriving at these estimates, they at least provide some idea about the level and trend of the periods.

TABLE 2.18—INFANT MORTALITY RATES—KERALA

<i>Period</i>	<i>Males</i>	<i>Females</i>
1911-21	244	240
1921-31	220	200
1931-41	184	162
1941-51	160	145
1951-61	120	120

Source : R. S. Kurup and K. A. George (Eds.) Population Growth in Kerala, Trivandrum, Demographic Research Centre. (Page 87)

The annual estimates of SRS (Rural) infant mortality rates for recent years are as follows :—

TABLE 2-19—INFANT MORTALITY RATES OF RECENT YEARS—KERALA

<i>Year</i>	<i>Infant mortality rate</i>
1966	68.3
1967	67.4
1968	64.0
1969	57.4
1970	52.6
1971	60.9
1972	66.0
1973	51.7
1974	55.9
1975	57.3
1976	56.3

Source : SR Report No. 13 BES. Kerala and Tables for 1976.

The variation in the SRS estimates is due to the fact that the number of infant deaths enumerated in the samples are not sufficiently large. However, even allowing for some margin of error, the very low levels reached during recent years is evident.

As the risk of mortality varies with age, the study of age specific death rates (ASDR) over time will reveal the changing pattern in this respect. Data from SRS for the years 1970 to 1975 are given in Appendix A, Table 12. During all the years, the ASDR is the lowest for 10—14 age group. The highest rate is for the 70+ age group, which is coming down over the years.

The expectation of life at birth and at other ages show the net effect of the differential mortality of various age groups. The values of expectation of life at birth for Kerala are given below along with those of India for comparison.

TABLE 2.20—EXPECTATION OF LIFE AT BIRTH

<i>Period</i>	<i>Males</i>		<i>Females</i>	
	<i>Kerala</i>	<i>India</i>	<i>Kerala</i>	<i>India</i>
1931—40 (Census)	32.2	32.1	35.1	31.4
1941—50 do.	39.9	32.5	42.3	31.7
1951—60 do.	46.2	41.9	50.0	40.6
1969 (SRS Rural)	..	48.1	..	45.0
1971—73 do.	60.6	..	62.1	..

It is seen from the above table that the expectation of life at birth has been rising in Kerala, and that between males and females, the latter have higher life expectancy. (see Appendix A—Tables 13 and 14) Thus, all the measures of mortality go to show that there has been substantial improvement during the past two or three decades. This factor contributed to the fast increase in the population of the State.

2.6.3 Migration

As a factor affecting population size, migration is not significant so far as Kerala is concerned. Till 1931, Kerala used to receive more people than it used to send out. After 1931, the trend got reversed. According to Dr. K. C. Zacharia's estimate, (9) during the decade 1951-61, out-migration from Kerala was about 2,85,000 and immigrants totalled about 86,000. The resulting net migration has affected the total size of the population only by 0.19% annually. On the basis of life time migrants according to 1961 census 6.24 lakhs of persons born in Kerala were found in other States, as against 2.33 lakhs of these born in other States were found in Kerala. This shows a net loss of 2.3% of the population. It is also seen that those who leave Kerala tend to be highly selective, as the better educated of the people leave the State. The consequences of such selective migration on the State's economy is not beyond controversy.

(9) K. C. Zachariah—Migration and Population Growth in Kerala, in "Population Growth in Kerala"—Edited by Dr. R. S. Kurup and K. A. George, Demographic Research Centre, Trivandrum.

CHAPTER III

BACKGROUND OF THE PRESENT STUDY

3 0 . How the Study Originated

The need to evaluate the FWP was raised in one of the meetings of the State Family Planning Advisory Council. In view of the importance of the programme, Government appreciated the genuineness of the demand and considered the ways and means of evaluation as well as the agency to be entrusted with the work. It was thought advisable to associate in this work, all the agencies involved in demographic or family welfare research, such as Demographic Research Centre (DRC), of the Bureau of Economics and Statistics (BES), Family Welfare Communication Action Research Centre (FWCARC) attached to Kerala University, and the Demographic and Evaluation Cell (D and E Cell) of the Department of Health Services.

A preliminary meeting was convened by the Health Secretary on 21-11-1975, in which the Director of Health Services (DHS), Director, BES, Dr. R. Krishna Pillai, Professor of Statistics, University of Kerala and Officers of the Health Services Department and BES were present. This meeting discussed at length, the general purpose, the various alternatives, and the most suitable agency to conduct the study and recommended that it would be better to entrust the proposed work of evaluation to a committee. Accordingly a Committee was formed consisting of the Health Secretary (Chairman), DHS, Director BES, Dr. R. Krishna Pillai, Dr. P. K. B. Nair as members and Sri P. S. Gopinathan Nair, Assistant Director, BES (Subsequently promoted as Deputy Director) as Member-Secretary. Formal orders constituting the above Committee were issued as per G. O. (Rt.) 3838/75/H.D. dated 20-12-1975. [Given as Appendix I (a)] This G.O. also contained orders constituting a Sub-Committee consisting of Dr. V. M. Koruthu, Deputy Director of Health Services, Dr. Krishna Pillai and Sri P. S. Gopinathan Nair, Member-Secretary of the Committee to design the required schedules/questionnaires.

Subsequently the Committee was expanded by co-opting two more members—(1) Dr. R. S. Kurup, Deputy Director (later promoted as Joint Director, BES), and Dr. A. B. Saha, Regional Director of Health Services, Government of India [as per G. O. (Rt) Nos. 2335/76/HD, dated 22-6-1976 and G. O. (Rt) 3648/76/HD, dated 13-10-1976 respectively :—Appendix I (b) I (c)]

3.1 Broad Objectives

The broad objectives of the study were also laid down at the Preliminary meeting. These are :—

(1) A statistical analysis of the demographic impact of the FWP to be made on the basis of the studies already undertaken by the DRC of the BES.

(2) The second part consisting of a study of the organisational set up of the Family Welfare Department and deployment and utilisation of staff, at various levels.

(3) An assessment of the inputs and achievements to be made and suggestions to be formulated for improving the organisation.

3.2 Approach to the Study

A three-pronged approach to the study was decided by the Committee :—

(1) To use the data collected, and the results of the studies already undertaken by the DRC of the BES about the FWP and its implementation

(2) To collect data regarding the performance of the programme, staff engaged, expenditure etc., for each institution and to elicit opinion of the Medical Officers, the Family Welfare Health Assistants (FWHA) and Auxiliary Nurse-Midwives (ANM) involved in the programme and also of leaders of public opinion through mailed questionnaires/schedules and

(3) To obtain a broad spectrum of public opinion about the programme and to receive the suggestions of the people through public sittings at important centres.

3.3 Scope and Plan of the Study

Four types of schedules were designed for collecting the required data. Schedule A is meant for collecting data on the general features of PHC, like area, population, eligible couples, the performance of Family Welfare over the years, details of staff, expenditure on Family Welfare etc. Schedule B is for obtaining data from the Medical Officers regarding their work relating to Family Welfare, their handling of complicated cases, the difficulties experienced by them and their suggestions for improving the programme. Schedule C is designed for obtaining the opinion of leaders from all walks of life, on aspects like their satisfaction or dissatisfaction about the services rendered, follow up, their involvement in the programme and their suggestions for improvement. Schedule D is for collecting data regarding details of the field work of FWHA/ANMs, about their relations with other staff members, the extent of effective team work, and the difficulties faced by them in the field. Specimen Schedules A to D are given as Appendix II to V.

The schedules (except C) were designed by a Sub-Committee ; while the Schedule C designed by the State Mass Education and Media Officer, was scrutinised and approved by the Sub-Committee. After

scrutiny by the Sub-Committee, the schedules were modified and placed before the Committee and were finally approved. The schedules were arranged to be printed at the offset press attached to the State Family Welfare Bureau. The distribution of schedules was entrusted with the monitoring unit in the office of the DHS. This unit was required to make an estimate of the requirement of each type of schedule for each district. The estimated number of schedules were sent to District Family Welfare Medical Officers (DFWMO) who were instructed to entrust the responsibility of distributing them through the District Mass Education and Information Officers and the Block Extension Educators (BEE).

Schedule A has been canvassed from all Primary Health Centres/Urban Centres/Taluk Hospitals/District Hospitals and Medical College Hospitals; Schedule B from both the Medical Officers of PHCs/Urban Centres and from the Chief Medical Officers in charge of the other institutions; Schedule C from M. Ps., M.L.As., B.D.C. Chairman, Panchayat Presidents, Trade Union Leaders etc., and Schedule D has been canvassed from one FWHA and two ANMs from each PH Centre. (For this purpose, from each PHC. one FWHA was selected at random by the BEE out of all the FWHAs; and one ANM from among all the ANMs. excluding the Headquarters ANM who was to be invariably selected). Before the schedules were distributed a press release was issued, regarding the formation and objectives of the Committee and requesting the co-operation of leaders and staff. The total number of each type of schedule sent to and received from the concerned institutions and persons is given below. There was some delay in getting the schedules from some of the institutions. However, by pursuing the matter, most of the schedules were obtained.

TYPE AND NO. OF FILLED IN SCHEDULES SENT AND RECEIVED

<i>No. of schedules</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>Total</i>
Sent	223	444	1345	590	2602
Received	223	384	1172	499	2278

As regards the tabulation, it was decided to utilise the services of the staff of the FWCARC, University of Kerala. For this, the Registrar, University of Kerala was addressed by the Chairman and the University agreed to make available the services of eight out of the twelve FWCARC Centre staff for tabulation work. A detailed tabulation programme was drawn up by the Sub-Committee and later on approved by the Committee. Dr. R. Krishna Pillai, Prof. of Statistics agreed to supervise the tabulation work and this was approved by the Committee. The defective schedules were returned and got back after correction.

3.4 Meetings of the Committee

The Committee has met on eleven occasions. During the earlier meetings the schedules prepared by the Sub-Committee were approved. The deliberations of the various meetings held by the Committee led to the arrangements for tabulation, the public sittings for eliciting opinion of the public, and the preparation of the report. The synopsis of the report prepared by the Sub-Committee was approved and the draft report of the various chapters was discussed at the sittings of the Committee. The changes suggested by the members have been incorporated by suitably modifying the draft.

Public sittings of the Committee.—The third approach of the study—namely public sittings—was arranged in the month of January 1977. Public sittings were held at Kozhikode (21-1-1977), Trichur (22-1-1977) and Kottayam (24-1-1977). Wide publicity at the State and District level was given about the public sittings, the arrangements for which were made by the DMOs of the districts concerned. Some guide points to form the basis for the public sittings were also drawn up. These covered questions regarding the strength and weaknesses of the programme, suggestions for improvement, the extent of involvement of the local leaders and voluntary organisations and the extent of social resistance from minority communities or religious groups.

The sittings were held at the Conference Hall of the Collectorates at the above places. A real cross-section of the public representing MLAs, Panchayat Presidents, Members of the District/Block Advisory Committees, Representatives of the Press, religious leaders, representatives of Voluntary Organisations, Trade Union Leaders, Members of the Medical Profession (both Government and private), representatives of all categories of staff implementing the programme and acceptors gave evidence. Considering the number and types of persons who came forward to give evidence, the response could be considered as good. 34 persons at Kozhikode, 32 at Trichur and 47 at Kottayam gave evidence before the Committee. The names and addresses of persons who gave evidence at the above three centres are given in Appendix VI. At Kozhikode and Trichur, the District Collectors were also present and gave their own views about the programme. The DMOs, ADMOs, and DFWMOs, of the concerned districts, were present and rendered every assistance for the smooth conduct of the public sittings.

In all the centres, the sittings began with a brief introductory remarks by the Chairman in which he explained the need to evaluate the programme. He also emphasised that for the improvement of the programme in future, the Committee would greatly benefit from the suggestions of the public. Those who participated in the sittings at the centres have covered a wide area of the complex field of FWP and made many useful suggestions. The suggestions numbering about ninety-five are given as Appendix XIV and XV.

3.5 Arrangements for the Preparation of Report

As all the members of the Committee are otherwise fully engaged, it was deemed essential to have a small supporting staff to complete the tabulation earlier done by the FWCARC staff, and to do the further analysis of the data. Accordingly, the Member-Secretary submitted proposals and as per G. O. (Rt.) 691/77/HD dated 23-2-1977 [Given in Appendix I (d) & (c)] Government sanctioned the creation of the following posts for a period of four months.

1. Research Officer	..	One (Rs. 510-995)
2. Research Assistant	..	One (Rs. 405-660)
3. L. D. Compiler	..	Three (Rs. 230-385)
4. *L. D. Typist	..	One (Rs. 230-385)

*(only for two months)

The staff were placed in position by the middle of June 1977 and continued till the middle of October 1977. As decided by the Committee the supervision of the supporting staff and the preparation of the report was attended to by the Member-Secretary in addition to his normal duties.

A Sub-Committee was constituted to prepare the synopsis of the report and go through the draft report before placing the same before the Committee. This Sub-Committee consisted of Sri N. Gopalakrishnan Nair, Director, BES (who retired on 30th June 1977), Dr. R. Krishna Pillai, Prof. of Statistics and the Member-Secretary. The synopsis prepared by the Sub-Committee was approved by the Committee.

As regards the two training centres, the Committee was furnished with details regarding their functioning through a questionnaire which was supplied to them. Details about these training centres are given in the next chapter.

CHAPTER IV

AN OVERVIEW OF EVALUATION OF FAMILY WELFARE PROGRAMME

4.0 Introduction

In an era in which developmental programmes have attained a cardinal place in the administrative system of a nation, evaluation studies play an important role in assessing the impact of such innovative programmes aimed at the betterment of social, economic and environmental conditions of the people. The blue prints of such evaluation studies and their execution may be looked upon "as experimental laboratories" which are of much help to social workers, educators and administrators.

Greenberg's definition of evaluation runs thus: "It is the procedure by which programmes are studied to ascertain their effectiveness in the fulfilment of goals".⁽¹⁾ For Suchman it is "the determinationof the.....results attained by some activitydesigned to accomplish some valued goal or objective".⁽²⁾ According to the glossary of administrative terms accepted by the American Public Health Association, evaluation is defined as "the process of determining the value or amount of success in achieving a predetermined objective".⁽³⁾ The agencies for evaluation study should analyse, (a) the extent of success or failure of the programme's operation, (b) its impact on the social set up, (c) its role in effecting radical changes in the environmental conditions of man.

Evaluation may be "formative" (operated when a programme is still in progress and intended to improve it) or "summative" (meant to appraise a product after it is well established). Again, it can be "Formal" or "Informal" which in turn may be penetrating and insightful or superficial and distorted. Assessment may be done by "inside" or "outside" evaluators. The outside evaluators tend to be more objective, they are able to include evaluative criteria that question the basic organisational premises; they can act as mediators if a controversy arises among the administrators of the programme and they are immune to problems of marginality and incongruity. On the other hand, the inside evaluators will be more proficient in the details of the programme and can do continuing research.

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- (1) Greenberg B. G. (Evaluation of Social Programme in "Readings in Evaluation Research". Ed, Francis G. Caro.)
 - (2) Francis G. Caro. Evaluation Research: An Overview, in "Readings in Evaluation Research", Ed: Francis G. Caro.
 - (3) American Public Health Association. Glossary of Administrative terms in Public Health. American Journal of Public Health Vol, 50,

Evaluators should be conscious of the immediate, intermediate and ultimate objectives of the programmes under study. They should use well controlled strategies which will yield maximum information. Observational techniques and informal interviews will prove most effective. According to Benedict "what is needed is evaluation that combines rigorous experimental data with a 'natural history' account of events and actors before, during and after programme implementation".⁽⁴⁾ The emphasis should be on what principles work best and why. Besides, the relationship between cost and effectiveness should also be studied, as decision makers are concerned not only with efficiency but also with effects of programme.

The usefulness of evaluation is three-fold (1) it provides data for improving a programme still under progress, (2) it helps the successful completion of a cycle of programmes, directing the organisers as to whether the original scheme should be modified or restructured, and (3) it can be of use to agencies implementing similar programmes in future.

Successful administration of evaluation depends on the technical competence and personal integrity of the evaluator and the co-operation of the administrators and practitioners of the programme. Evaluation studies are confronted with problems of measurement and design, which could reduce the possibility of reaching unbiased conclusions. Mechanical collection of data which fails to throw light on the different facts of social problems and their causes will render evaluation study ineffectual. Stress should be laid on analysis of the programme process and its end results. The ultimate success of evaluation lies in the prompt utilisation of the results of such studies. It is easiest when changes recommended are few and do not tamper the basic pattern of the programme.

Evaluation with its emphasis on analysing the relative success or failure of programmes designed for tackling social problems is a strategic source of knowledge in administrative science. It is an ongoing process related to all stages of programme-planning, development and operation. The scientific management of programme administration banks heavily on evaluation study which has become an essential part of systematic programme development.

4.1 Evaluation of Family Welfare Programmes

An awareness of the high rates of population growth on the part of national Governments has led to the launching of population control programmes in many of the developing countries. These programmes consist of measures to provide knowledge of methods to limit family size, motivate couples to accept one or other of such methods, and ensure supply and service facilities. Since the intensity of the pro-

(4) Francis G. Caro. Evaluation Research: An Overview in "Readings in Evaluation Research", Ed. Francis G. Caro.

grammes and the socio-economic conditions of the people which influence the rate of acceptance, vary considerably from country to country, it is necessary to assess the impact of these population control programmes from time to time, "if their strengths and weaknesses are to be identified and the programmes modified accordingly."⁽⁵⁾ The need for such an assessment is all the more, because of the competing demand for scarce resources for various developmental projects. This requires that administrators and planners have to be convinced that the expenditure on population control programmes is well spent by achieving the prescribed goals and that the benefits derived are commensurate with the expenditure incurred. These objects could be attained by proper evaluation of such programmes.

In the field of family welfare, according to Chandrasekharan and Freyman, there are a set of "objectives which can be placed in a hierarchical order from the point of view of their functional relationships. A programme fixes goals for each of these objectives and evaluation is defined as a process of assessing the actual performance with respect to each of these objectives in terms of the expected goal. Continuous evaluation leads to a better understanding of the interrelationships between the different objectives, to the specific revision of the goal for each objective in the hierarchy and to reorganize the programme generally"⁽⁶⁾.

Conceived in the above frame-work, there could be three objectives in the following order, beginning with the highest, namely, ultimate impact objectives, intermediate impact objectives, and at the lowest level programme execution objectives. Examples for each of these respectively could be, reduction of birth rate to a predetermined level, extent of knowledge about contraception, its practice, etc., and availability of supplies.

The programme execution objectives refer to activities required to achieve the impact objectives, such as increasing production of contraceptives, establishing clinical services, extending mass communication etc. In other words, the formulation of programme implies identification of the ultimate objective and setting up of goals and execution consistent with the ultimate impact objective.

Various scholars have indicated slightly different aspects or objectives or time sequence in planning evaluation or list of characteristics on which information is required to evaluate FWP. According to Wishik⁽⁷⁾ the three aspects to be stressed in evaluating the programme are, the performance of the programme (by analysing availability of

(5) Chandrasekharan C. and Sreenivasan K. Evaluation of Family Planning Programmes, in Asian Population study Series.

(6) Chandrasekharan C. and Freyman M. W. Evaluating community efforts to modify family size, in "Public Health and Population Change".

(7) Wishik S. M. A base line for Evaluating National Population Control Programmes (and referred to in Chandrasekharan and Sreenivasan, *op. cit.*)

services, personnel, supplies etc.) the extent of public response (by analysing knowledge, attitude and practice) and the effectiveness in preventing pregnancy. Bogue has listed three objectives, namely measuring the level of fertility, and providing other information needed to plan and administer the programme, measuring the progress towards the goal of lowering fertility and providing steady flow of information with which to develop and improve the programme. According to Agarwala⁽⁸⁾ information is required on characteristics listed under the headings, demographic, attitudinal, programme data and assessing and evaluational. The United Nations Mission to India has suggested that "evaluation should be an assessment of effort as well as of the impact of the programme. In the view of the Mission, there should be (a) current evaluation or administrative evaluation and (b) evaluation of the more immediate impact and (c) evaluation of the ultimate demographic impact"⁽⁹⁾.

From the above it is evident, that "Evaluation has to be made along many fronts, and that the achievement of the ultimate objective depends on keeping a watchful eye on the numerous elements pertaining to programme administration and operation and on how the programme is likely to affect fertility through changes in attitudes, motivations and practices pertinent to family planning". For carrying out this type of evaluation, concepts (like acceptors, users) have to be defined with precision, arrangements have to be made for obtaining the data required (like KAP of the general population, characteristics of acceptors and of the general population from which the acceptors are drawn etc.) through service statistics and special surveys and indices of measurement (like response rates, percentage protected, births averted, ASFR, etc.) have to be evolved.

4.2 Existing Evaluation Structure in the State

The FWP in the State, follows the Indian programme in organisational structure and pattern of management. In the Indian programme, evaluation is an in-built component of the programme. At the PHC level, which is the Primary Unit of FWP administration, there is a computer who is in charge of collection, compilation and transmission of data relating to family welfare performance and connected matters. The data transmitted from the primary units are compiled at the district level by the Statistical Assistant at the DFWB and passed on to the State headquarters, where the D and E Cell of the SFWB compiles the data for the State and transmit the same to the centre. On the basis of the target fixed for the State by Government of India, the D and E cell fixes the target for the districts.

(8) Agarwala S. N. Data required by Programme Administrators for Evaluating Family Planning Programmes.

(9) U. N. Advisory Mission to India Report (quoted in Evaluation of Family Planning Programmes Asian Population Studies, Series No 5).

Besides, the D and E cell conducts some preliminary analysis of the data by way of concurrent evaluation and issues a monthly bulletin on achievements of the FWP.

In Kerala, besides the D and E cell mentioned above and which is concerned with concurrent internal evaluation and handling of routine service statistics, there are two other centres which are functioning with the financial support of the Ministry of Health and Family Welfare (Government of India). These are the DRC which is part of the State BES and the FWCARC which is attached to the Sociology Department of the University of Kerala. Both the centres are located in Trivandrum.

The DRC, Trivandrum was established in 1958 and is one of the first of four centres started by Government of India in the various parts of the country. The DRC has conducted a number of studies on various aspects of population like fertility, mortality, migration, socio-economic factors affecting the fertility and of family welfare, like analysis of the characteristics of acceptors, knowledge, attitude and practice (KAP) of the population to family welfare, evaluation of mass camps and the demographic impact of the programme, etc.

The FWCARC was started in 1962. The emphasis of this centre is on the communication aspects of family welfare. The centre has completed a number of studies, on the impact of communication action in selected panchayats, evaluation of certain aspects of camps and analysis of the characteristics of MTP and other acceptors. A list of research studies so far undertaken by the above three units is given in Appendix XIII. Of late the Centre for Development Studies, is also conducting studies covering the broader issues like the socio-economic variables which affect the demographic variables and the inter-relationship between the two.

4.3 Some of the Evaluation Studies Conducted in India and Kerala

It is not intended to cover in this section all such studies conducted, but only to indicate very broadly the nature of approach, methods used and major findings of some of the important studies.

The national FWP of India has been evaluated twice by the U. N. Advisory Mission and twice by the Programme Evaluation Organisation (PEO) of the Planning Commission. Besides, the National Institute of Family Welfare had undertaken evaluation of the programme in some of the States like West Bengal. Individual scholars and DRCs in the country have also undertaken evaluation of some or the other aspects of the programme from time to time.

The U. N. Advisory Mission, at the request of the Government of India evaluated the programme for the first time in 1965 and again in 1969. The second U. N. Mission evaluated the programme in the context of the Third Five Year Plan. In its report, the Mission noted marked progress in achievement since 1965 even though the coverage of reproductive couples was still small. The Mission pointed out a number of areas where improvement could be brought about. The areas suggested for improvement are the accurate estimation of vital rates for measuring the demographic change, administrative planning and institutional development, transportation facilities and medical supplies. etc. The positive association of family welfare performance with literacy is indicated in the report, which also mentions the scope for improvement, if the researchers and administrators assist each other to sort out the problems and tackle them.

The PEO of the Planning Commission had conducted an evaluation of the programme in 1963-64 which was very much limited in scope and was in the nature of a bench-mark study. This report contained a number of suggestions which helped to reorient the programme. But the evaluation by the PEO in 1969 was a detailed one with some unique features like collection of field data in two phases—reaction of general respondents and follow-up of the adopters. In the first phase, during September-December 1968, a general purpose enquiry was conducted, covering the availability of services, scope and nature of mass education and communication programme, staff position at different levels, the achievements, the assessment of knowledge, attitude and reaction of local leaders and general respondents, functioning of Regional Training Centres etc. The sample coverage of this general purpose enquiry was 35 districts, 69 rural family planning centres, 15 Regional Training Centres, 350 villages, about 7000 respondents (including over 900 local leaders) and 271 family welfare staff spread over all the States and one Union Territory (that is Himachal Pradesh). The second phase of the study undertaken during March to May 1969, consisted of interviewing adopters of vasectomy, Tubectomy and IUD. Data were collected by interviewing 6000 adopters distributed in 180 villages and 18 cities and towns. Besides, the working of 36 rural clinics and 27 urban clinics was studied. In addition a subsample of 1372 spouses was also interviewed to check some of the responses obtained from the adopters.

The analysis of the results brought out a number of findings, like the inadequacy of staff strength in rural centres, the irregularity in field visit by the field staff the scope for improvement in transport and training facilities and inadequacy of educational aids and equipments. The study revealed that educational programmes cannot be conducted effectively without an awareness of the norms and values of the community, as well as individual aspirations and life experiences, and that different methods/channels of mass media have to be resorted

to make the people aware of the different methods of FWP, so as to help them cross the social and psychological barriers. The study suggested the need for dynamic leadership at all levels, improvement in services, efficient functioning of staff, effective supervision and guidance to grass root level workers, better preparation of the couples, prompt attention in the case of complaints, greater involvement of non-officials and concurrent appraisal to find out the comparative efficiency of the various methods.

The appraisal team constituted by the National Institute of Family Welfare has evaluated the programme in some of the States like West Bengal. The approach of this team has been evaluation of secondary data from the Department of Family Welfare, collection of necessary data from the State and District Bureau through schedules, visits to certain selected districts, PHCs, subcentres etc., discussion with officials, interview of local leaders and acceptors, etc. On the basis of the findings the team has made recommendations to improve the programme.

Studies by DRCs and CARCs normally cover one or the other aspects of evaluation. In this connection mention may be made of some of the evaluation studies conducted by the DRC, Trivandrum. In general, the studies have covered such aspects as characteristics of acceptors, KAP surveys, follow up study of acceptors, and demographic impact of the programme.

The details of the characteristics of acceptors given in Chapter VIII and of the level and changes in KAP in Chapter VII are mainly based on the studies conducted by the DRC. Follow-up studies have been conducted by the DRC of the Bureau—one in 1962 and the other in 1977. In the first study (10) 4% of the persons sterilised upto March 1961 were contacted and interviewed by the District Statistical Officers in the presence of Medical Officers. Besides, the demographic and socio-economic particulars of persons, data on details such as period of abstinence from sex life after the operation, prior use of contraceptives, complaints like swelling, pain of testes, pain at the time of ejaculation, change in desire for sex etc. were collected. The relationship of the complaints with the period after which sex life was resumed, age, number of children born and occupation was also studied. On the basis of the findings of the study, the need for a thorough medical check up of persons prior to sterilisation and for a follow-up (at least a sample) of the acceptors was pointed out.

Another follow-up study of a sample vasectomy acceptors of Palghat Camp (January-February 1973) showed that of the persons contacted 19% had complaints after the operation, that relatively the family welfare staff had motivated larger number of lower parity

(10) DRC Trivandrum.—The after effects of sterilisation. Paper No. 22
3/603—6

acceptors and that the follow-up visit after the operation by the Family Welfare Staff was good. The study has also attempted to assess the work already done in the district and the work that remains to be done. It is seen that of the total sterilisations done till the end of 1972 and in the mass camp, 65 per cent are from 4th + parity group, leaving a large chunk of those eligible for sterilisation uncovered; and that the vast majority of the women in the 2nd and 3rd parities in the various age groups (ranging from 87 to 99 per cent) are yet to be sterilised (11).

The impact of the programme on birth rate of the State has been studied in another paper issued from the Centre and prepared by Dr. R. S. Kurup.(12) According to this, up to the end of 1972, 6.8 lakhs births have been averted and birth rate has come down to 31.8 in 1972 from 38.9 during 1951-60 by the achievements of family planning—both programme and non-programme methods. [See Chapter IX—Para 9.12 & 9.13]

Before presenting the evaluation of the various aspects of the programme in the State, it is proposed to present in the next two chapters, the historical development of the programme in the State followed by the special features of the programme, as these are relevant in giving a correct perspective of the programme.

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- (11) DRC Trivandrum. An assessment of the camp performance and the unprotected couples in Palghat District after the mass camp Paper No. 92.
 (12) Kurup R. S. On the Effect of the Family Planning Programme on the birth rate in Kerala. Paper No. 77 of DRC.
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CHAPTER V

FAMILY WELFARE PROGRAMME IN THE STATE

5.0 Introduction

The history of the FWP in the State is inextricably linked with the larger story of the Indian Family Welfare Programme. A very brief resume of the latter will serve as a back drop to the history of the programme in our State.

India is legitimately credited with the honour of being the first country to introduce Government sponsored FWP, on a nation-wide scale, as early as 1952. A favourable climate for such a set up had already been built up in the country from the 1930's, by the emphasis given by the economists and political leaders, about the adverse effects of the steady increase in population. Till the introduction of the official programme, the FWP was implemented on a very limited scale by voluntary organisations, which opened up clinics to give advice for spacing births and limiting births. The first Government birth control clinic was opened in Mysore in 1930.

Since the dawn of independence in 1947, Five Year Plans have drawn up for the economic development of the country; and FWP has been included as a national programme right from the First Five Year Plan. The course of India's FWP has undergone changes in approach and emphasis. In the first two plan periods the approach was essentially "clinical". This changed in the third plan period to "extension" approach, which essentially means trained workers working with people to help them achieve for themselves through their own efforts better health and better living standards.

With the reorganisation effected in 1966 the programme became time-bound and target-oriented under the "cafeteria" approach, and a separate department of FWP was constituted. The Fourth Plan (1969-70 to 1973-74) recognised the gravity of the situation and called for urgent action, by stating that "a strong, purposeful government policy supported by effective programmes and adequate resources of finance, men and material, is an essential condition for success" (1). In the Fifth Plan period, the emphasis was shifted to one of treating the FWP as an integral part of health, Maternal and Child Health (MCH) and nutrition services. The demographic object of the programme was to reduce the country's birth rate to 30 per 1000 by the end of the 5th five year plan (1979) and to bring it down to 25 per 1000 by the end of the 6th plan (1984).

(1) Fourth Five Year Plan Document.

A comprehensive population policy was announced in 1976, with provision for political and financial benefits to the States, depending on their performance in FWP. The methods for limiting births have also changed during the course of years, from one of "self control" and "rhythm method" of 1950's to sterilisation (which was recognised as one of the methods by Government of India in 1961), to the use of various contraceptives like diaphragm, jelly, condom etc. IUD was introduced in 1965.

The growing importance given to the Indian FWP is evident from the expenditure for the programme, which rose from Rs. 1.45 million during first plan to a provision of Rs. 516 million in the fifth plan. The infrastructure like the PHCs and sub-centres has expanded considerably. The number of PHCs has reached a record figure of 5,296 by 1974.

Achievements of the programme have not been negligible. Vasectomy has been the most popular and effective method. From 1956 till 1974-75 12.1 million, vasectomies have been performed. During the same period the number of tubectomies done is 4.1 millions. The number of IUD acceptors dwindled from 0.9 million in 1966-67 to 0.4 million in 1974-75, in spite of the ambitious targets laid down. The annual number of acceptors of conventional contraceptives has increased from 300,000 in 1963 to 2,516,870 in 1974-75 mainly due to the Nirodh Marketing Programme. It is estimated that up to end of the 1974-75, 16.3% of the couples in the country have been protected by one or the other method.

Large inter-state variations in performance continue, as a result of vast differences in socio-economic conditions and levels of administrative efficiency on the one hand and the restraining effect of traditions and taboos on the other.

5.1 History of the Family Welfare Programme in the State

The FWP in the State has developed in conformity with the overall design prescribed by the Government of India. But the State has not failed to evolve innovative strategies of its own, like the mass sterilisation camps, which at one time proved to be a pace-setter for the whole country.

Kerala launched its FWP in a modest way in 1955 with eleven F.W. Clinics attached to medical institutions. The course of development of the programme over the years, falls into four distinct phases, namely, (1) period of slow growth (1955-64), (2) period of

reorganisation and provision of State-wide FW service centres (1964-70) (3) years of mass sterilisation camps (1970-73) and (4) the period of FW with intensified MCH services and mini camps (1973 to continuing).

During the first phase, a State Family Welfare Board was formed in 1958. Seventy clinics were opened and facilities for sterilisation were provided in 53 institutions (during 1956-61). Fifty more clinics started functioning during 1961-65. During the same period Family Planning Centres were opened in 93 Panchayats, where two social workers (one male and one female) were entrusted with family welfare education work. In order to supervise the work, three regional family planning officers were appointed. Sterilisation facilities were extended to twenty more institutions. Incentives were introduced for promoters and doctors. Committees at various levels were also formed to help in the activities of the family welfare centres.

The second phase of development saw the reorganisation of the programme, which was effected in 1964, on the basis of the recommendations of the Mukerjee Committee (appointed by Government of India). According to this reorganisation, a net work of service units and a hierarchy of administrative posts were established. To direct the activities of these units, the District Family Welfare Bureau, State Family Welfare Bureau and a cell in the State Secretariat also started functioning. Under this set up, the urban areas were served by urban centres attached to various medical institutions, while in rural areas, there was a Family Welfare Centre, attached to the Primary Health Centres with sub-centres per 10,000 population. This phase of development also included the introduction of IUD services and the All India hospital post-partum sterilisation programme. The oral contraceptive programme was also started during this period.

From the end of 1970 to April 1973 was the era of mass camps. This innovative approach had its own advantages and disadvantages. Apart from the good dividend obtained in terms of achievements, the modus operandi of bringing in the acceptors to camps in groups, helped to break the secrecy with which people used to accept sterilisation. The experience of the camps has also proved the effectiveness of co-ordinated work of various agencies in attaining good results. Considering the good results of the basic approach, the programme is continued in a modified form as mini camps at lower levels, so as to ensure better follow up of acceptors.

Altogether, nine mass camps were held at District Headquarters, each of one month's duration (except that of Trivandrum). The total achievements of the camp come to 1.84 lakhs vasectomies and 4,299 tubectomies (total 1.88 lakhs sterilisations).

The period since the abandonment of mass camps (April 1973) till date has been one of intensification of the integrated FWP and MCH approach and mini camps. This period of development is marked by the extension of facilities for female sterilisation to rural and semi-urban areas. Under the "British Aid" programme, six-bedded wards and operation theatres are to be provided in 17 Taluk hospitals and the conversion of labour room to operation theatre in 30 PHCs. The benefits of the integrated maternity, child health and nutrition programmes reach the people through the sub-centres attached to PHCs in rural areas and midwifery centres in urban areas. In addition, the development of special programmes like DPT, immunisation for infants, school children and expectant mothers, and the various applied nutrition programmes, have helped to bring down infant and child mortality considerably.

Brief mention may be made about the new multipurpose approach. The experience gained from the independent approach followed hitherto of each programme of health, family welfare and nutrition, on the one hand and the heavy population size to be covered by each worker on the other hand, have led to the integrated approach of rendering health services. Under this scheme, each worker will be in a position to serve the people in a better way by offering integrated services at the peripheral and supervisory levels. The existing staff under various schemes will be pooled and designated as male and female health workers. Each of these health worker will cover a population of 5,000 to 7,000 and serve to all their health needs. The scheme is known as Multipurpose Health Workers Scheme and is being introduced in the State.

Another special development during this period is the introduction of Medical Termination of Pregnancy (MTP) which became permissible by law from 1st April 1972. MTP is done in approved institutions. The number of MTP done over the years shows steady progress. In 1976, a new and simple technique of female sterilisation known as mini-laparotomy, was introduced in the State. This has become very popular because this can be done as a non-postpartum operation and no hospitalisation is required.

It may also be mentioned that the FWP in the State has received the active support of local bodies and voluntary organisations in the actual implementation of the programme. Eight urban centres are run by voluntary organisations and two by municipalities. Two institutions run by voluntary organisations have female sterilisation beds and two others have oral contraceptive programme.

5.2 Organisation and Management

The FWP is guided and supervised by the State Ministry of Health. There is a State Cabinet Sub-committee on FW to review the progress and one State Family Planning Council, consisting of official and non-official members from all walks of life with the Health Minister as Chairman, to review the progress and advise Government on the implementation of the programme.

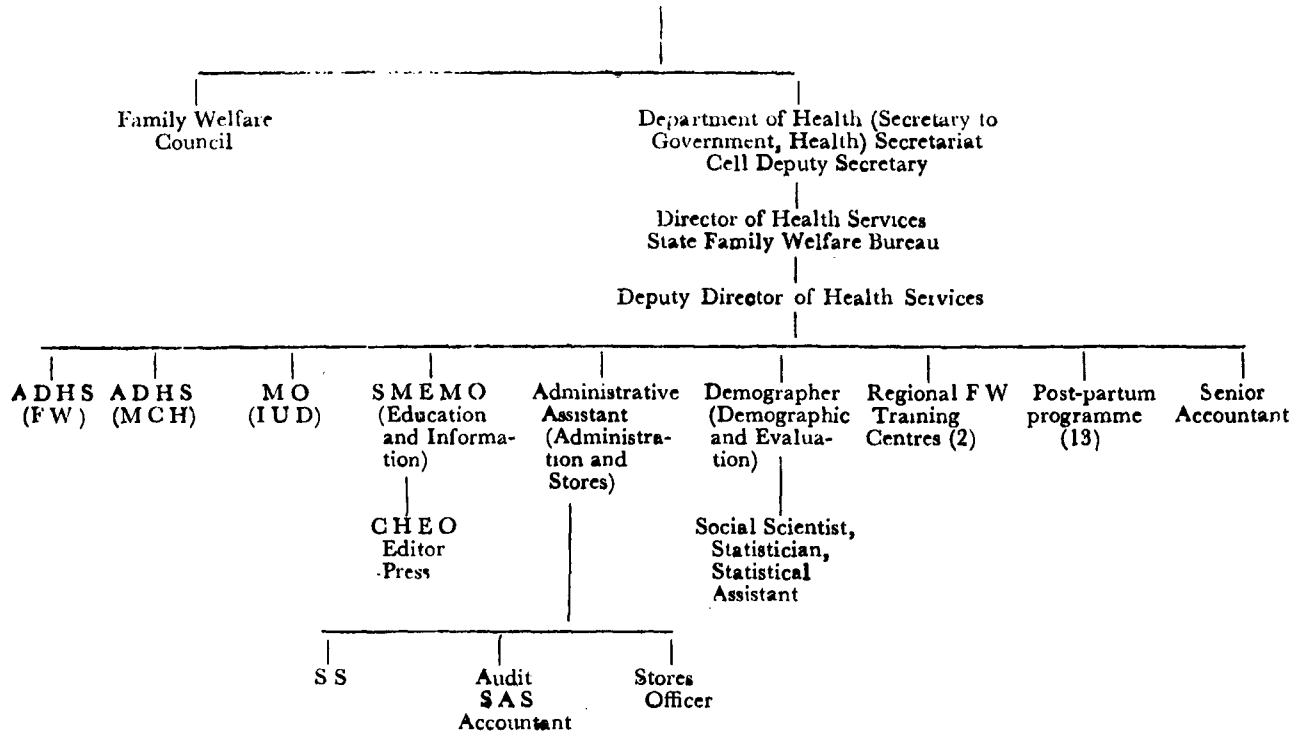
The State level direction is done by the Secretariat Cell by a Deputy Secretary, under the Secretary to Government, Health Department. The State Family Welfare Bureau (SFWB) and the District Family Welfare Bureau (DFWB) attend to the technical supervision and guidance. The SFWB has as its head a Deputy Director of Health Services (DDHS) assisted by Assistant Director of Health Services (ADHS) for Family Welfare and MCH, Medical Officer for IUD, State Mass Education and Media Officer (SMEMO) for mass education work, and Demographer for current evaluation of the programme. In matters of administration, the DDHS is assisted by an Administrative Assistant and by a Senior Accountant in account matters.

The State-wide supervision is attended to by the DDHS, ADHS, Medical Officer-in-charge of IUD, and SMEMO. The mass education division under SMEMO has a chief Health Education Officer and Editor to assist him.

At the district level the District Bureau has a District Family Welfare Medical Officer (DFWMO), an Administrative Assistant, Mass Education and Information Officer (MEIO), assisted by District Extension Educators and a Statistical Cell with a Statistical Assistant.

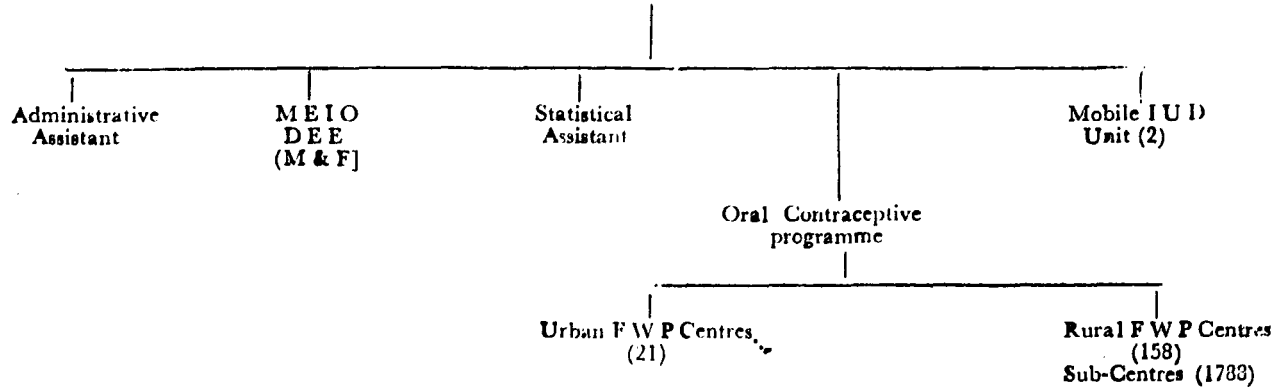
Besides the State Family Welfare Council, there are other State Level Committees like Mass Media Co-ordination Committee, Grants Committee, IUD Technical Committee, MTP Licensing Board and Technical Co-ordination Committee of the D & E Cell, DRC & FWCARC. The chart showing the organisational set up is given below.

FAMILY WELFARE PROGRAMME ORGANISATIONAL CHART
STATE CABINET SUB-COMMITTEE ON FAMILY WELFARE



DISTRICT FAMILY WELFARE BUREAU (10)

DISTRICT FAMILY WELFARE MEDICAL OFFICER



5.3 Staff Pattern at Various Levels

Details of staff at the State-level and of the 11 DF WBs at the District-level are given in Appendix VII. At the lower level there are 163 PHCs (including four centres attached to Medical College Hospitals) and 1788 sub-centres in the State.

At the sub-centre level there is one ANM for about every 10,000 population. (One Ayah or voluntary worker attached to each ANM has been dispensed with and they are being absorbed in regular posts). At the PHC level which normally covers a population of about 150,000 the staff pattern is given below :

Family Welfare Medical Officer	..	1
Block Extension Educator	..	1
Family Welfare Health Assistant (For every 20,000 population)	..	1
Public Health Nurse/Lady Health Visitor (For every 40,000 population)	..	1
Auxiliary Nurse/Midwife (For every 10,000 population and posted for each sub-centre)	..	1
Computer	..	1
Store keeper-cum-clerk	..	1
Driver	..	1

The number of ANMS, FWHAs and Public Health Nurses (P.H.Ns.) varies according to the population covered by the PHC. Normally, the number of ANMs ranges from 12-16, that of FWHAs from 6 to 8, and of PHNs from 3 to 4.

The urban centres have a slightly different pattern of staff, as may be seen below :

Assistant Surgeon (Male)	..	1
Assistant Surgeon (Female)	..	1
Extension Educator (Male)	..	1
Extension Educator (Female)	..	1
Welfare Worker (Male)	..	1
Welfare Worker (Female)	..	1
Store keeper-cum-Accountant	..	1
Attendant	..	1

Though the staff pattern of the urban centres has been changed by the Government of India, the new pattern has not yet been implemented.

5.4 Functions of the Various Hierarchies

The Medical Officer-in-charge of the PHC has an important role to play. He has to be a team leader of the entire PHC staff and provide leadership. He has to ensure co-ordination of work among the staff, give technical guidance to the staff, maintain liaison with agencies like Community Development Blocks and ensure supplies of medicines and contraceptives. His other responsibilities include organisation of camps and other special programmes, holding of staff meetings and arranging orientation training camps. He does the vasectomy operations and attends to follow-up services as required.

The Assistant Surgeon (Female Medical Officer) is expected to assist the Medical Officer-in-charge of PHC, in all his activities, particularly in developing and directing MCH and FW needs of the community, in educating the public about the need for the acceptance of family welfare. She does the IUD insertion for those who require it and also attends to the follow-up services of both IUD and sterilisation cases.

The Lady Health Visitor/PHN, supervises the work of A.N.Ms. and voluntary workers on the one hand and assists the Medical Officer in organising the MCH and FW services and school health work. Besides, she is to train the dais, run the ante and post-natal clinics, educate the mothers in child care, and notify cases of communicable disease.

The Computer is responsible for the preparation and despatch of periodical reports, maintenance of all statistical data relating to FW clinic and community health services rendered and a register of vital statistics.

The Block Extension Educator (BEE) is entrusted with the extension work relating to FWP. He is to plan and organise extension services, and to supervise the work of FWHAs, computer and store keeper.

The FWHA is expected to collect and record the data of each village for FWP planning, identify local leaders and keep them informed of FWP, prepare a list of target couples, organise educational programme, undertake follow-up of the acceptors, and assist the computer in the maintenance of current vital statistics.

The store keeper-cum-clerk is to maintain the store and keep account of contraceptives, educational materials and other equipments, disburse supplies and maintain the required records.

The ANM has clinical and extension work. On the clinical side, the ANM assists the Medical Officer in IUD insertion and she does the follow-up cases. During routine house visits, she advises

and guides on nutrition for mothers and children, on sanitation and immunisation, distributes educational materials, and advises women about the importance of limiting the family size. In clinics and during domicilliary visits she provides MCH services—prenatal, natal, postnatal, infant and preschool care and immunisation.

Voluntary workers are assigned the duties of helping the ANM in her activities.

The work of various categories of staff in the urban centres, is more or less the same as that of those holding corresponding posts in the PHCs.

5.5 Rendering of Services and Extension Work

Family Welfare Services are rendered at the sub-centres, PHCs, Taluk Hospitals, District Hospitals and other major hospitals attached to Medical College Hospitals. At the sub-centre level, conventional contraceptives (CC) are distributed besides advising the couples ; at the PHC, in addition to CC distribution there are facilities for vasectomy operations and for IUD insertions. (In certain centres, whose number is limited, tubectomy operations are also done). At the taluk, district and other major hospitals, tubectomy operations are also done, besides all the above mentioned services (except CC distribution). The operations—vasectomies and tubectomies—as also IUD insertions are performed by fully qualified medical practitioners. Recanalisation operations are done at the District and Medical College Hospitals.

The acceptors of these methods are contacted, educated and motivated by the para-medical field staff, such as ANMs, FWHAs, BEEs etc. The extension work which precedes the acceptance of the permanent or semi-permanent method of preventing pregnancy and the follow-up of acceptors for locating the cases with after-effects if any, are attended to by the para-medical staff and pursued by the medical officers of the PHCs.

The extension work is carried on by all the para-medical staff during their house visits. This work is supervised by the BEEs. As team leaders, the Medical Officers also arrange meetings and group discussions in which they also participate.

Publicity about the programme at the grass-root level is ensured by the MEIO and his two deputies. Printed messages are distributed to the villagers at group meetings and study classes. Besides, with the use of modern audio-visual aids, the details of the message and the progress of the programme are carried on even to the illiterate groups in remote villages.

5.6 Accommodation and Other Facilities

At the lowest level namely, Family Welfare Centre, which numbers 1322, maintained under Family Welfare Funds, 809 are in Government owned buildings, and some more are under construction. In addition to the above there are 439 sub-centres maintained under State Funds and out of these 162 are accommodated in Government buildings. The ANMs. have their quarters in the sub-centre building. The facilities of accommodation and furniture are inadequate in respect of several sub-centres, as revealed by visit to some such centres. In the matter of accommodation the weakest link is in respect of FWHAs, who number 870 and of whom no one has been provided with office accommodation or quarters. In certain places the office accommodation for the FWHAs is provided in panchayat buildings; in other cases offices are housed in rooms of private buildings which are often inadequate and often located in inaccessible localities.

For FWP, there are 158 Rural Family Welfare Centres. Out of this, 32 are provided with Family Welfare Blocks and staff quarters. The rest are accommodated in PHC buildings.

5.7 Supply of Medicines and Contraceptives

The supply is arranged by the General Medical Stores at the Directorate, through the District Medical Stores. From the District Medical Stores the District Medical Officer (DMO) allots medicines and other equipments to the various PHCs. IUDs, contraceptives like Nirodh, oral pills and certain special drugs are distributed by the SFWB through the DFWB. At the State level there is a separate wing under a Stores Officer, to procure and distribute the different items to the peripheral units.

5.8 Committees at the Various Levels for Co-ordination of Activities and Involvement of the People

In a novel social action programme like Family Welfare, active involvement of the people is essential for ensuring success. It is also equally important that effective co-ordination is attained in the work of various agencies at different levels. With this view a net work of popular committees from the State to the Panchayat level have been formed.

There are eight State Level Committees, which are mentioned below:

- 1 Cabinet Sub-Committee.
- 2 State Family Welfare Council.
- 3 State Managing Committee for exgratia Payments to the cases of Fatality/Complications after Sterilisation/IUD insertion.

4. Technical Committee
5. Committee for Involvement of Panchayat and C. D. Blocks in Family Welfare.
6. State Level Mass Co-ordination Committee.
7. Committee for the Involvement of the Organised Sector.
8. Grants Committee.

The composition of the above committees is given as Appendix VIII.

A word about the functions of each of the above Committees.

The Cabinet Sub-Committee lays down policy for implementation of FW activities in the State and reviews the progress. Further, the remuneration to acceptors prescribed by Government of India is reviewed and supplemented by payment by the State Government. The State Family Welfare Council reviews the programme implementation and in an advisory capacity lays down policy matters which would guide the State authorities in planning and implementing the F W programme in consultation with other agencies. The State Managing Committee examines all cases of complication and fatality as recommended by the medical boards and takes decision on payments. The function of the Technical Committee is to prescribe a uniform procedure in the techniques and use of drugs, to be followed throughout the State by Medical Officers, for different methods of family welfare, like sterilisation and I U D. The Committee for Involvement of Panchayats and C. D. Blocks, is to evolve measures which will ensure the involvement of local bodies, voluntary organisations and other development departments. The State-level Mass Co-ordination Committee is entrusted with the responsibility of co-ordinating and guiding the various mass media for supporting the programme. The Committee for the Involvement of the Organised Sector lays down measures to involve the labourers of the organised sector and the labour leaders in the F W activities in co-operation with the Employees State Insurance Corporation. The function of the Grants Committee is to scrutinise the reports received from the voluntary organisations which are entitled to receive grants in aid, review and evaluate their achievements and pass orders for payments of grants.

At the District-level there are two Committees.—The District Family Welfare Advisory Committee and the District-level Mass Education and Co-ordination Committee. The composition of these two Committees is included in Appendix VIII referred to above.

The District-level Advisory Committee is responsible for advising those who are entrusted with the work of implementing the programme, about the special problems of the district which have to be kept in

mind, while executing the programme and to make suitable modifications within the frame-work of the general policies. The other District-level Committee is concerned with effecting necessary co-ordination among the various mass media of publicity and the agencies involved in the same.

At the Block-level there is a Committee, with the Block Development Officer (B D O) as the Chairman, and the Panchayat Presidents, Executive Officers, Representatives of Voluntary Organisations, Members of the District-level Advisory Committee, belonging to the Block area etc., as members. This has the same function at the block-level as the District Advisory Committee has at the district-level.

At the grass root level, there is the Panchayat (local bodies in Rural areas) Committee with the Panchayat President as Chairman and Executive Officer, F W H A, elected members of the Panchayat wards, Political and Trade Union leaders as members. The function is similar to that of the Committees at the Block and District-level.

5.9.0 Training Centres

In a social action programme like the Family Welfare the training of the personnel is extremely important. To meet this need two Family Welfare Training Centres (F W T C) are operating-one at Kozhikode and another at Trivandrum. Details about the performance of these two training centres were collected through a specially designed questionnaire, issued to the authorities of the two centres. Information about the staff pattern, nature of course conducted, methods of conducting the courses, progress of achievements etc., have been collected. Based on the information thus received, an assessment of the performance of the two centres is given in the following paragraphs.

5.9.1 Staff Pattern of FWTCs.

The staff pattern of both the centres is more or less the same. There is a principal who is the head of the institution in both the centres. Besides, there are posts of Medical Lecturer-cum-Demonstrator, Health Education Instructor (H E I), Health Education Extension Officer (H E F O), P H Nurse Instructor, Statistician, Social Science Instructor and other administrative supporting staff. Details of the staff sanctioned and in position as on 31-3-77 in both the centres are given as Appendix IX.

5.9.2 Nature and Methods of Course Conducted

In the training centre at Kozhikode, a Family Welfare Course, of duration varying from 3 to 35 days is conducted every year since 1969-70. This course is meant for Medical Officers, F W H As, B E Es, A N Ms, Computers, Homoeo Medical Practitioners (3 batches) and Information Assistants (1 batch). Besides, occasional workshops for

Nursing Superintendents, District Extension Educators and Mass Education Information Officers have been conducted. Multipurpose Workers Training is also conducted since 1975-76.

The training time for the various courses is divided among lectures, group discussions, audio-visual programmes, seminars, symposia and field work. The field work consists of a survey, identification of problem and organisation of health education activities. Details of hours set apart for the various courses at the two centres are given in Appendix X. The field work of the training is conducted under the supervision of the H E I, H E E O and other officers in the different areas of the selected P H C assisted by the P H C staff. The performance of the trainees is assessed by observation of their performance of assigned duties, test papers and by evaluating the report prepared by them.

In the centre at Trivandrum, job orientation training in family welfare, for Medical Officers, A N Ms, F P H As, B E Es, P H Nurses is organised. Methods of teaching and assessment are the same as those at Kozhikode.

5.9.3 Progress Achieved

At Kozhikode Centre, from the year 1969-70 to 1976-77 training for 120 batches has been completed. The number of persons trained exceeds 2,300. In the Trivandrum centre from 1966-67, till 1975-76, training for 172 batches has been completed covering little more than 3,400 participants. In both the centres, usually in an year 6 courses consisting of 11 batches are conducted. Besides regular courses for family welfare staff, the centre at Kozhikode arranged during 1975-76 training in population education for nearly 2,000 students of Industrial Training Institutes and Industrial Training Centres at the institutions concerned.

5.9.4 Teaching Aids

The available teaching aids in both the institutions consist of 16 mm. projectors, sound films, film strips, tape recorders, amplifier set, slides etc. According to the filled-in-questionnaire received from the institutions, the available teaching aids are sufficient for Trivandrum centre, except for an additional requirement of Epidiascope, which is mentioned as urgently needed. The inadequacy of teaching aids is noted by the Kozhikode centre, which requires additional supply of art materials for preparing charts, graphs, maps, etc., and films and film strips on topics like health education, nutrition, communicable diseases, environmental sanitation etc. In Kozhikode centre, the aids and equipments are not put to use, as the post of Driver-cum-Projectionist is vacant.

Accommodation facilities at both centres are reported to be adequate. Hostel accommodation is available at both the centres. This is reported as adequate at Trivandrum but inadequate at Kozhikode. The latter centre has mentioned that inadequacy could be met by fresh supplies of cots, pillows and mattresses in sufficient numbers, to replace the old ones (which have reached the stage of being condemned) and by providing one steel almirah and ceiling fan to each of the rooms.

The library facilities are reported as inadequate by both the centres (except that accommodation only is adequate at Trivandrum). Racks and almirahs, as well as books and periodicals and display facilities are additionally required for both the centres. Facilities for extra-curricular activities are conspicuous by their absence in both the centres. This could be met by providing facilities for indoor games and supplying a radio listening set.

Staff meetings are held regularly especially, before and after each course of training. Trivandrum centre has reported lack of space for holding staff meetings, which could be met by the provision of a conference hall with necessary furniture. Inspection of the work of the centre is done by Deputy Directors of Health Services and DHS, besides audit by Accountant General. There is no separate Local Advisory Committee for each centre. But there is an official Training Centre State Level Committee consisting of ADHS, Assistant DHS (H. E.), DMO (H), DFWMO and Principals of the two centres. This committee meets quarterly and reviews the training done and approves plan of action for future training.

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CHAPTER VI

SPECIAL FEATURES OF FAMILY WELFARE PROGRAMME IN THE STATE

6.0 Mass Vasectomy Camps in Kerala

The experience of implementing the programme and its insignificant impact on population growth till 1971, made it necessary to intensify the FWP. Hence, it was decided by Government of India to select 51 districts in various States under Intensive District Scheme in 1971. As a first step, 17 districts were selected. Ernakulam was selected as one of these 17 districts to cover the first phase of the intensified programme. At the initiation and under the able guidance of Shri S. Krishnakumar, the then District Collector, Ernakulam, a District Development Seminar was held in August 1970. During the deliberations of this seminar it was decided to initiate and intensify FWP, with the support of the representatives of various social, economic, political and religious organisations and Government officials, with the close co-operation of the officers and staff attached to the DFWMO, Ernakulam. Further, it was decided to organise a mass camp at one place to render sterilisation operations for men, which is a permanent, less expensive and easy method for preventing births.

A pilot vasectomy camp for one day at Kalamassery, with additional incentive made available by Premier Tyres Ltd., Kalamassery, Lions Club of Alwaye and other organisations, was held early in 1970 to gain experience in the conduct of such camps. 746 operations were done in one day. Encouraged by the success of this one day camp it was decided to organise a mass vasectomy camp of one month duration at Ernakulam with a sub-camp at Thodupuzha during November-December 1970. The aim of the camp was to carry the FWP to a high tempo and to bring all the eligible couples in the district with in the programme. This camp was known as "Jana Peruppa Prathirodha Yajna" or crusade for the control of population growth.

Encouraged by the success of the first camp, a second mass vasectomy camp was organised in Ernakulam known as the 'Massive Family Welfare Festival, Ernakulam District'—from 1st to 31st July 1971. Similar camps were organised in all the districts during early 70's to propagate the FWP and to popularise the acceptance of sterilisation. All these camps have been pace-setters in several respects. The camps have paid good dividends, as a very large number of sterilisations could be performed in a very short time. The gala atmosphere of the camp and the way in which large number, of

acceptors were brought to the camp have very much helped to remove the veil of secrecy with which sterilisations were done previously. Some of the main features of the camps are given below.

6.1.0 Camp Approach

It is evident from the performances of the camps conducted in the various districts of Kerala that camp approach is more favourable for creating a psychological identification of the individual with the urgent problem of population. The important advantages of the camp approach are given below.⁽¹⁾

(i) With the given resources, larger population groups can be covered within a short period.

(ii) According to the rules of statistical probabilities from the simple fact that the motivational campaign is directed to larger sections of the target groups, the absolute numbers of those actually becoming motivated would be larger.

6.1.1 Camp Arrangements

Arrangements at camp sites were made for reception, registration, enquiry, pre and post operation check-up and preparation, collection of demographic particulars and non-service activities like cash disbursements, control room, canteen, etc. As soon as the acceptor arrived at the camp site, he was led to the registration compartment and registered with relevant details. Then he was directed for pre-medical check-up. If the person was found fit for the operation, he was directed to the preparation section. From the preparation section he was taken to the operation theatre for the operation. After the operation, he was taken to the medicine section where he was given necessary medical advice regarding the after-care and supplied with adequate medicines. He was then led to the cash section where he was given the cash incentive awarded by the Government and local self Government bodies, etc. Free ration for one week and other gifts made available by the voluntary organisations were also given.

In addition to the staff of the District Family Welfare Bureau and the staff of the Family Welfare Department, sufficient number of doctors, nurses and nursing attendants, the required number of ministerial staff, pharmacists, drivers, attenders, peons and barbers were posted for speedy execution.

For those who needed rest after the operation, facilities were provided in the camp. All the persons operated were provided transport to their houses the same day. It was thought that if facilities were provided to retain the persons who had undergone the operation for three days at the camp site for intensive medical care, it would create a more favourable attitude to accept sterilisation in a

(1) Government of Kerala—The Story of Ernakulam Experiment on Family Planning

camp. But the experience at the Palghat District Camp where this facility was tried proved to be a failure—because, only very few acceptors availed of this facility and hence it was almost equivalent to a non-existent facility. On the other hand if all the acceptors were to avail of this facility, there would have been serious problems of space and bed. It is also suggested that instead of locating the camp in the district headquarters, sub-camps can be organised in different parts of the districts. This will provide facilities for more people to participate and accept sterilisation. The success of the Palghat mass camp was the result of organising sub-camps in the districts, in addition to the main camp.

Intensive publicity was organised in different panchayats/municipalities/corporations two weeks before the commencement of the camp. Public meetings were organised to obtain support from the leaders of the village community such as local medical practitioners, village revenue officials, panchayat officials, teachers, women's organisations and prominent village leaders. This helped to remove the psychological or social barriers responsible for acting against acceptance of this method. House to house campaign and large scale public meetings were arranged on the pre-operation day in each panchayat and these were addressed by local leaders, M.L.As. and persons who have already undergone the operation. Special localised promotional efforts were done in selected pockets, such as colonies of Harijans, Fishermen and others besides slums, factories and special labour colonies to persuade the residents to participate in the camp.

6.1.2 Community Involvement

The extent of community involvement will decide to a great extent the success or failure of any social action programme. The organisers of mass camps were well aware of this fact. Hence, various committees were formed with the leaders of panchayats/municipalities/corporations, service organisations, medical officers, Block Development Officers and other public men associated with socio-economic and religious organisations. The success of the mass camps was the result of the involvement of panchayat institutions and public leaders at the district, block and village level. These institutions developed a spirit of healthy competition among them. In the camp the non-official agencies played an important role. The success of the camps indicated that the best family welfare leaders are those with traditional leadership roles in society.

A list of eligible couples in each ward was prepared so as to identify the target group who could be approached and persuaded for accepting the operation. Propaganda and motivation of eligible couples in groups, collection of acceptors together in a group and then transportation together, helped to attract large number of the population

in rural areas to accept this method. To participate in the programme as an acceptor became not only an act of discharge of responsibility to one's own family, but also an act of patriotism.

6.1.3 Incentives for Acceptors and Promoters

Higher incentives were given both to acceptors and promoters. It is argued that the acceptance of sterilisation by a large number of people in these camps was the result of higher incentives given to them. The camp experience shows that higher incentive is an effective instrument to promote the family welfare acceptance and the incentives have to be continued till the national programme gathers enough momentum and reaches a stage at which the incentives will probably be no longer needed to support it.

In addition to monetary benefits, the acceptors were offered gift boxes, vitamin tablets, free ration, food, medicine, transportation facilities, etc. The incentives given to acceptors and promoters at various camps are given below:

<i>Name of camp</i>	<i>Total incentives</i>		
	<i>Acceptors</i>		<i>Promoters</i>
	<i>Male</i>	<i>Female</i>	
	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>
1. Ernakulam I Camp	86	..	5
2. Ernakulam II Camp	114	112	10
3. Trichur	65.5	..	7
4. Trivandrum	75	83	7
5. Palghat	..	..	10
6. Cannanore	..	..	5
7. Kottayam	..	..	8
8. Quilon	..	..	8

It is a fact that acceptors in all the camps were given much higher incentives than under normal programme, though the rates varied from camp to camp.

6.1.4 Targets and Achievements of Mass Camps

Targets were set for each camp in advance. The organisers of the camps experienced no difficulty in achieving excess over the targets fixed. In Ernakulam II camp the target fixed was 20,000 sterilisations. Based on the performance of the first five days in the camp, the target was revised to 50,000. The target and achievement of each camp is given below :—

TABLE 6.1—TARGET AND ACHIEVEMENT

Name of camp	Target		Achievement	
	Vasectomy	Tubectomy	Vasectomy	Tubectomy
1. Ernakulam I	15,000	..	15,005	..
2. Ernakulam II	50,000	..	62,902	516
3. Trivandrum	12,000	500	15,588	832
4. Trichur	15,000	..	20,222	699
5. Cannanore	15,000	..	17,591	399
6. Ernakulam III	20,000	..	15,347	281
7. Kottayam	15,000	..	12,918	525
8. Palghat	10,000	500	10,083	203
9. Quilon	10,000	..	14,936	844
Total	1,62,000	1,000	1,84,592	4,299

It may be seen from the above table that targets have been exceeded in all the camps except Ernakulam III and Kottayam. More than 80 per cent of the total number of sterilisation done in the districts since the inception of the programme could be achieved within a short period of one month in these districts.

6.1.5 Arrangements for Follow-up and Results of Follow-up Studies

Arrangements were made to take immediate action whenever any complication was detected or reported by the acceptor. In hospitalised cases special attention was given by the hospital authorities to effect speedy recovery. The details of the cases were to be reported to the DFWMOs for ensuring continued follow-up after the patient was discharged.

Some follow-up studies have been conducted which have brought out interesting findings. The study conducted by Nair and Dutt⁽²⁾ has revealed that non-officials were responsible for promoting 45.3 per cent of cases, family welfare health staff for 40.5 per cent and other Government staff for 14.2 per cent, in the first mass camp at Ernakulam. In Palghat, a follow-up study⁽³⁾ conducted by the DRC has revealed that 47.2 per cent of the acceptors had been motivated by FWHAs, 24 per cent by ANMs, 3 per cent by doctors of PHCs, 1 per cent by

(2) Nair, P. S. and Dutt P. R.—Promoters and Acceptor's Characteristics Experience of Ernakulam Mass Vasectomy Camp, G I R, H F F. Vol VIII, No 1, 1973.

(3) Demographic Research Centre, Trivandrum—Paper No 92—An Assessment of the Camp Performance and the Unprotected Couples in Palghat District after the Mass Camp 1977

compounders and 13 per cent by extension officers. In Ernakulam camp, the medium age of acceptors motivated by the various categories of promoters is more or less the same. In the matter of attracting younger couples as against elder ones, the non-officials had a slightly better edge over others in Ernakulam camps. The average number of living children to persons, who were promoted by family welfare and health staff was 4.1, that by other government staff 3.9 and non-officials 3.2. 50 per cent of the sterilised persons who were promoted by non-officials had 3 children or less, whereas the corresponding percentage for the family welfare and health staff was about 42 per cent and for other government staff, 45 per cent. In motivating couples with lesser number of living children, the non-officials were more successful.

The relationship between education and average number of living children to male acceptors was analysed in the follow-up study of Palghat camp acceptors. Average number of living children to the "illiterate" male acceptors is 5.3 while it is 5.0 for "literate but below primary" and only 4.0 for those who were "matric and above". Similarly an increase in the educational standard of the wives of male acceptors is accompanied by decrease in the average number of living children. For example, the average number of living children to "illiterate" wives of acceptors is 5.4, while it is only 3.2 for those with wives having educational standard of "matric and above".

The results of the follow-up survey of vasectomised persons in Palghat camp⁽⁴⁾ have revealed that 51 per cent of the acceptors preferred mass camps to normal programme for greater remuneration, 3 per cent for services of expert doctors, 13.2 per cent for responsible and careful performance of operation. 72.3 per cent of the acceptors were satisfied with the remuneration they received in the camp, 29.7 per cent were not satisfied with the remuneration they received in the camp, 51.1 per cent were not prepared to accept the prevailing remuneration of Rs. 25 under the normal programme. They wanted higher amount.

Some of the suggestions for improvement of the camp in future obtained from the acceptors are the following.

46 per cent have suggested, enhancement of monetary remuneration, 22.4 per cent increase in food and conveyance facilities, 12.4 per cent wanted services of expert doctors and 8.6 per cent medical follow-up after the operation, and 5 per cent wanted to avoid persons with complaints for sterilisation.

19 per cent of the acceptors in Palghat camp had experienced various types of complications after the operation. 23.4 per cent had physical weakness, 15.6 per cent pus formation, 15.6 per cent pain at

(4) Demographic Research Centre, Trivandrum—Paper No. 92—An Assessment of the camp performance and the unprotected couples in Palghat District after the mass camp—1977

the time of ejaculation, 15.6 per cent decrease in retention power, 3.9 per cent lack of sex desire and 2.5 per cent had swelling. Greater percentage of acceptors had physical weakness which was a common complaint. It is seen that the 77 acceptors who had complaints after the operation included 33 acceptors who had complaints before the operation. Thus, there are only 44 acceptors who had developed complaints after the operation. Of the 77 with complaints only 33 acceptors approached medical persons for advice and cure.

6.1.6 Views against the Camps

Various criticisms are levelled against the camp approach. It is alleged that some of the acceptors in the camps are not eligible for operation. Technical perfection of the operation may not be attainable in the camps due to the rush of acceptors. The surgical methodology adopted for the operation may not be a standardised one. All the doctors posted in the camps may not be equally proficient in the techniques of sterilisation. The fact that acceptors had to stand in queues might make the pre-operative cleanliness less than perfect.

The follow-up and after care of a large number of people at a time is a serious problem. It is difficult to educate the acceptors about all the factors about post-operative care.

6.2 Family Welfare Fortnights and Minicamps

Family welfare weeks were organised to intensify the programme. Before introducing the family welfare fortnights, it was the routine work of the Health Department staff to educate the masses and render services. This type of activities required a push to get effect among the masses. To intensify the family welfare activities, family welfare fortnights were organised from 1966 onwards and the first such fortnights was observed from 5th December 1966 to 19th December 1966.

The objective of organising family welfare fortnights is to create awareness of the problem among the workers and to make them enthusiastic to do the work in an efficient way. The workers have great responsibility in introducing the idea of small family to the people. They have to win the confidence of the public and of local leaders, voluntary organisations and other Government and non-Government agencies.

The first week of the fortnight is devoted to the organisation of the motivational work by contacting the eligible couples and the second week is devoted to rendering of services to those who are prepared to accept the family welfare methods.

Usually, the Governor, or the Chief Minister, or the Health Minister, or the Health Secretary or the DHS gives broadcast talks emphasising the urgent need of population control. Special issues highlighting the importance of population problems and necessity of accepting suitable family welfare methods are usually brought out by newspapers during this period. During the first week an intensive motivational effort, through cultural activities such as film shows, dramas, kathaprasangams, ottanthullal, etc., to convey family welfare methods is adopted.

The mass family welfare festivals organised in Trivandrum and other district headquarters during the 70's enabled to popularise the programme. This type of mass camps were discontinued as directed by the Government of India. The main objection to conducting these mass camps was the difficulties in ensuring proper follow-up of acceptors. Hence it was decided to organise mini camps in PHCs or other hospitals involving one or more PHC areas, so that more attention can be given by the workers of that area in motivating the people and also in conducting follow-up of acceptors. From 1974 onwards, the intensive fortnights have been also periods for the conduct of mini camps.

6.3.0 Post-partum Programme

A large number of females do experience repeated pregnancies within a short period after their marriage. Many of these women are below the age 30. They are not desirous of such repeated pregnancies at short intervals, but they fail to avoid further child-bearing mainly due to lack of knowledge about the methods to prevent such unwanted pregnancies and probably their reluctance to approach a doctor or others from whom proper advice could be got.

It is estimated that without contraception, approximately 80 per cent of fertile women will conceive again within a year following delivery.

It is a fact that in urban areas majority of the deliveries occur in hospitals. In these cases, the concerned woman could be motivated for the use of contraception. Their husbands can also be given education on family welfare. But in a country like India particularly those who are living in rural areas do not receive institutional maternity

care. Government of India had decided to launch a co-ordinated multi-hospital family welfare scheme in the Fourth Five-year Plan and this is known as All India Hospital Post-partum Programme. (PPP)

This programme was introduced in 59 hospitals in 45 centres in 16 states and 6 Union Territories at the beginning and was extended to more institutions during the subsequent period. The entire programme has been organised and is administered by the department F of family Welfare. Originally the programme was confined mostly to the hospital premises, but by 1974, a composite type of post-partum unit has been organised with the objective of maximising the extent of effective contraception among target population. The idea is to see how much impact a strong educational input along these lines will have on both the direct acceptors and indirect acceptors. (Women who are obstetrical or abortion patients are termed as direct acceptors and women who are not recently confined but who have heard about the programme and come to the hospital to receive contraception services are termed as indirect acceptors).

The hospitals implementing the programme have to arrange for informing each delivery and abortion case through individual and group talks, teaching aids and other means about the safety of family welfare methods, its effectiveness and also the necessity of accepting a suitable method either temporary or permanent.

Achievements of the PPP are given below:—

<i>Year</i>	<i>Deliveries and abortions</i>	<i>Tubectomies alone</i>
1971-72	27171	7055
1972-73	33308	8823
1973-74	37514	11028
1974-75	61459	18136
1975-76	71433	22792

6.3.1 Institutions where PPP is Available and their Staff Pattern

The institutions selected for the programme are Medical College Hospitals, Women's and Children's Hospitals and District Hospitals with Maternity units. In Kerala the programme was started during 1969-70 in S. A. T. Hospital, Trivandrum and was later extended to other institutions. The programme is now extended to 13 institutions- 12 A type and 1 B type (given in Appendix XI).

The staff pattern for PPP Units consists of one post each of Assistant Professor/Senior Medical Officer, Anaesthetist, Projectionist, Stenotypist, L. D. Clerk, Male Peon and Driver.

In the case of units attached to Medical College hospitals one post each of Lecturer in Health Education and Family Welfare, Lecturer in Statistics and Demography and Lecturer in Paediatrics is also sanctioned.

6.4 Medical Termination of Pregnancy (MTP)

Induced abortion as a means of termination of pregnancy existed ever since ancient times. Abortion was punishable except under special circumstances when it was done in good faith to save the life of the pregnant woman. This limitation of the law on abortion forced people to resort to illegal abortion by quacks under unhygienic conditions resulting in large number of maternal deaths. The question of induced abortion involves various factors relating to the individual and the society as a whole and so this has assumed great importance. Hence, the need for liberalisation of the law on abortion was keenly felt in this country also. The Central Family Planning Board at its meeting held on 25th August 1964 expressed anxiety on the reported increase in the number of induced abortions under insanitary conditions affecting the health and life of pregnant women. A committee was set up to examine this in detail. On the basis of the recommendations of the committee a Bill was passed by Parliament and was given assent by the President on 10th August 1971.

The Act provides for termination of pregnancies if

(i) The continuance of the pregnancy would involve a risk to the life of the pregnant woman or grave injury to her physical or mental health.

(ii) There is substantial risk that if the child was born alive, it would suffer from such physical or mental abnormalities as to be seriously handicapped.

The proviso, on 'physical or mental health' includes failure of contraceptive practice as a reason for resorting to MTP and this in effect means liberalising abortion to almost 'on request'. Under the Act, termination of pregnancies which do not exceed 12 weeks is permitted by a single registered medical practitioner and by two medical practitioners if the length of pregnancy exceeds 12 weeks but does not exceed 20 weeks. According to the provisions in the Act, 69 Government institutions and 17 private institutions have been approved for conducting termination of pregnancies in the State during the period 1975-76. In the approved list of Medical Institutions, only those Medical Officers who have got the necessary licence are allowed to terminate pregnancies.

The number of pregnancies terminated during the period 1972-76 are given below:—

TABLE 1—NUMBER OF PREGNANCIES TERMINATED

<i>Year</i>	<i>No. of terminations</i>
1972-73	1084
1973-74	4244
1974-75	9564
1975-76	19969

6.5 Oral Contraceptives Programme

This programme was started on a pilot basis in eight institutions during 1968-69, but discontinued in certain institutions subsequently. The programme was continued in five institutions. Later the programme was extended to 16 additional centres under the department and to one voluntary organisation. The programme is also in operation in one institution under Government, which is not within the Health Services Department.

The number of women who accepted the programme during the years is given below:

1971-72	..	113
1972-73	..	87
1973-74	..	175
1974-75	..	136
1975-76	..	1071

The names of institutions where the programme is in operation are given in Appendix XII.

6.6 Conclusion

The special features of the Family Welfare Programme in the State outlined in this chapter have helped to intensify the spread of conventional methods and to offer a wide variety of methods to the people. Among the special features, PPP has made good progress. The MTP, though introduced late is gaining popularity because of its suitability for certain categories of acceptors. The oral contraceptive programme has not made much headway in the State.

CHAPTER VII

KNOWLEDGE, ATTITUDE AND PRACTICE OF FAMILY WELFARE

7.0 Introduction

In the early days of implementation of FWP, studies were conducted to ascertain the attitude of the couples towards family size norms, the extent of knowledge the couples possessed and the practice of family welfare methods. These are known as knowledge, attitude and practice (KAP) studies.

Bernard Berelson remarks that KAP studies “mean surveys of knowledge, attitude and practice with regard to fertility matters”.⁽¹⁾ These studies have been conducted in several countries, the world over. Berelson conceives the following items as necessary in KAP studies :—

1. *Attitude to family size* :—Desired family size, ideal pregnancy interval, additional children desired, discussion of family size with spouse and others, etc.

2. *Attitude to family limitation* :—Approval or disapproval of family limitation in general, and of Government programme in particular, and contraception or sterilisation or abortion, reasons for approval or disapproval, readiness to practise family planning, attitude towards national population growth, sources of influence on fertility attitudes and perception of others’ attitude on similar questions.

3. *Knowledge* :—Information about reproductive biology, including items of conception, knowledge of contraceptive methods, general and specific perception of recent trends in mortality especially infant mortality.

4. *Practice* :—Previous, current and expected practice of family welfare methods, when started and sequence, sterilisation, experience of abortion, etc.

As background characteristics, Berelson has specified the socio-demographic variables like age, education, literacy, religion, occupation, rural-urban origin, household composition, family structure, interest in education, decision-making, mobility and other indices of modernity. Further, Berelson mentions that KAP studies are used

(1) Bernard Berelson KAP Studies on Fertility in “Family Planning and Population Programmes”

for three purposes, namely, the descriptive, the evaluative and the directive. By descriptive is meant their use to obtain "a reliable picture of the present situation for the enlightenment of every one concerned".⁽²⁾ The evaluative use is served by the measurements derived from the outcome of family welfare programme by providing progress in information, attitude and practice between a baseline survey and subsequent surveys. The directive use of KAP survey is to guide programmatic decisions.

In this chapter it is proposed to present the findings of some studies conducted in the developing countries, followed by an overview of KAP studies in India. Results relating to Kerala from some of the All India KAP surveys, like those conducted by the National Sample Survey (NSS), Sample Registration Scheme (SRS), Operational Research Group (ORG) and the Planning Commission at various time periods are presented next. Details of studies conducted in Kerala by the DRC, Trivandrum are also given, followed by a discussion of the general picture relating to changes in KAP over time emerging from all the above studies.

7.1 Important Findings of KAP Studies Conducted in some of the Developing Countries

The general level of information about the physiology of reproduction used to be very low among the couples in the developing countries during the first half of the previous decade. A small percentage of women in developing countries know that fertility control was possible and one or more contraceptive methods were available. But the proportion of couples who did not know any contraceptive methods ranged from 40% to 65%, as revealed by surveys conducted during the period 1962 to 1965. The situation might have improved considerably during the later periods.

The extent of practice of family welfare varies in the developing countries from very low to moderately low. It has been found that by the mid sixties, only 15 to 20 per cent of the couples in these countries were practising contraception either to limit further births or to adjust spacing between births. Results of most studies have similarity in pattern and hence the salient findings of two studies alone are mentioned here.

The KAP survey conducted in Philippines in 1972 revealed that many families are moving away from the large family norm. More than 86% of the respondents are reported to have knowledge of family welfare methods, while only 32% have ever practised contraceptives.

⁽²⁾ Bernard Berelson—KAP Studies on Fertility, in "Family Planning and Population Programmes"

The survey conducted in Ethiopia in 1971 revealed the ideal number of children as 4. Majority of the respondents stated that it was "up to God" to decide how many children should be born to a couple. General knowledge of contraception was very much limited in Ethiopia. Regarding practice, slightly over 1% of the urban respondents and only 0.2% of the rural respondents claimed to have ever practised contraception.

7.2 K. A. P. Studies in India

A number of KAP studies have been conducted in India, since the inception of the programme. Some of these studies have been local in nature, conducted on small samples of specific populations, while others have been nation-wide surveys on a large scale. Notable among the local studies are, "Attitude of Baroda Mothers Towards Family Planning" by S. Chandrasekhar, "A Survey of the Attitude of Men and Women of Calcutta on certain Aspects of Population Problem" by K. K. Mathen, India-Harvard-Ludhiana Population Study at Khanna, Punjab, by Gordon and Wyon, and the Mysore Population Study by the United Nations; those on a national scale are those undertaken by the N.S.S., Family Planning surveys in a sub-sample of SRS villages, the study of family planning practices in India by ORG Baroda, and the KAP survey conducted by Programme Evaluation Organisation (PEO) of the Planning Commission, Government of India. These surveys provide information on knowledge, attitude and practice and also on fertility and motivational aspects in respect of family welfare.

The objectives of various studies conducted in India have been many and varied. The following are some of the objectives : (1) to find out the degree of birth control practice among professional categories like medical men and school teachers (2) to find out the attitude of mothers towards family welfare (3) to compare the attitude of women on various aspects of the population problem (4) to measure the knowledge of family welfare among the people and to investigate opinion on the optimum number of children (5) to discover factors responsible for negative or positive attitudes towards family welfare (6) to assess the gap between the awareness of contraceptive techniques and their use (7) to discover the beliefs and practices related to family welfare among village women (8) to study family welfare practice in relation to socio-economic factors (9) to find the relationship between the ideal number of children desired and the actual number of living children (10) to explore the knowledge of unmarried workers about family welfare. All the surveys conducted had specified combinations of two or more of these objectives.

The methods followed in collection of information on KAP in India show much variation. Some were based on questionnaire served at households while a few had collected information through

questionnaire administered to women attending family welfare clinics. Information was also collected through socio-economic surveys or public opinion surveys by interview method.

The sample size of the various studies has varied from 100 married couples in one or two selected villages, to quite a few thousand couples in some cities; and to a country-wide sample of households under the NSS or SRS. It may be stated here that some of the studies are quite well known like the Mysore Population Study, and the Khanna Study, though they are not national in character. There were also studies by the Planning Commission and ORG Baroda, which had a cross section of the country as the coverage in the sample.

The findings of the various studies have been useful to the policy makers and programme administrators. The most common reason put forward by the respondents for practising birth control is economic, followed by considerations of the health of the mother. According to the Mysore population study, education of men and women was positively associated with preference for higher age at the birth of the first child; rural men and women mentioned a larger ideal family size and wanted more children than their urban counterparts. Most of the studies have also revealed large gaps between knowledge and practice. Some of the results of the large scale surveys conducted are given below :

7. 3. 0 Family Planning Surveys Conducted as Part of NSS

The NSS Organisation is conducting multipurpose surveys covering the entire country. The topics for which data are collected vary from year to year, depending on the administrative requirements of various ministries. The NSS has so far collected data on family planning with particular reference to KAP, during four rounds—16th, 22nd, 23rd and 28th.

7. 3. 1 Sampling Design, Coverage and Results of Surveys Conducted by NSS 16th round 1960-61

The family planning survey of the 16th round was confined to urban areas. A stratified two stage sampling design was adopted with urban blocks as the first stage units and households as second stage units. The urban areas of India were divided into two strata—first strata consisting of towns and cities with population of 50,000 and above, according to 1951 census and the second strata consisting of all other cities/towns. The households in a selected block with at least one couple grouped into three second stage strata—(1) households having educated wives, (2) households not included in (1) and having educated husbands and (3) other households arranged in two

per capita expenditure classes of less than or equal to Rs. 20 and more than Rs. 20. 384 households in 64 urban blocks in Kerala were covered by this survey.

An important point regarding concept (from which a deviation was made in the 22nd round) is that if a husband had more than one wife, there were as many couples as the number of wives. Necessary particulars were collected by interviewing all husbands who were normally resident members of sample households and whose spouses were also alive and not divorced or permanently separated. Most of the questions were asked to all husbands in the sample households, but questions concerning current practice of family planning, desire for more children and inclination to learn or practise family planning were put only to husbands, whose wives were below 45 years of age.

The results of this survey in respect of Kerala showed that 45.2% of the husbands had knowledge of a specific method; that the highest percentage of husbands having knowledge of a specific method of family limitation was in respect of vasectomy (34%) followed by tubectomy (26.8%); the average number of children considered ideal was 3.5; that the percentage of husbands (with wife under 45 years of age) who had practised family limitation methods (any method) was only 6.9.

7.3.2 Sampling Design, Coverage and Results of 22nd round and 23rd round 1967-68 and 1968-69

Information on family planning was collected for the first time from rural areas, during the 22nd round. Urban areas were also covered. As in the 16th round, particulars were collected by interviewing the husbands, who were normally resident members of the sample households and whose spouses were alive and not divorced or permanently separated from them. Quite unlike the 16th round a husband with more than one wife was also considered in this enquiry to form one couple only (irrespective of the number of wives.)

The sample design was a stratified two stage one with villages as the first stage units and households as second stage units in rural areas, and urban blocks and households as first and second stage units respectively in urban areas. Villages and blocks from sub-samples 1 and 2 of the fifth sub-round were taken up for this special enquiry. Information was collected on an average from 15 households from each urban block and each village.

The results in respect of Kerala showed that 55.9% of the 188 husbands interviewed in urban areas and 52.6% of the 525 husbands in rural areas had knowledge of family planning methods. Regarding practice, 19.1% of husbands having knowledge of specific family planning methods in urban areas (out of 105 husbands contacted) and 28.3% in rural areas practised specific methods (out of 276 contacted).

The family planning survey was again repeated during the 23rd round (1968-69). The data on knowledge and practice of family planning was collected through a Block in schedule 12, which was meant for collecting data on population, labour force, births and deaths. The items of informations covered under family planning include knowledge of any specific methods, willingness to learn, methods practised, sources of information, etc.

7.3.3 Sample Design, Coverage and Results of Knowledge and Practice : NSS 28th round (1973-74)

The survey on family planning was conducted during the 28th round (1973-74) in all the sample villages and blocks, by collecting information in four blocks (7 to 10) of Schedule 14, which was meant to canvass data on fertility, maternal and child care, besides family planning. As in other NSS rounds the general design was a stratified two stage one, the first stage units being villages/blocks and second stage units being households. Information on family planning was collected during all the 3 sub-rounds each of 3 months duration by interviewing husbands of currently married women, aged below 50 from the sample households. Details of specific methods of family planning knowledge and methods practised were collected 3,749 husbands in rural areas and 1,381 husbands in urban areas were interviewed. In this round there was a going back to the definition of couple, whereby if a husband had more than one wife there were as many couples as the number of wives. The estimates of couples, with knowledge, have been prepared, by considering each couple as many times as each has knowledge of one or the other method of family limitation. Subject to this the estimates show that in rural areas 72% couples have knowledge of vasectomy and tubectomy 63% have knowledge of IUD and 54% have knowledge of condom. The corresponding percentages for urban areas are 74, 62 and 56. Only four of the more important methods have been considered here.

As for the extent of current practice (considering all methods together) the estimates show that in rural areas 25.4% of the couples and in urban areas 27.5% practise family welfare. The rate of practice for the combined (rural & urban) area is 25.6%. The highest proportion of couples currently practising family planning (considering all methods) is from the age group 35-39 (49.0%) closely followed by 30-34 age group (48.9%) in rural areas. In the urban areas the highest proportion of couples currently practising is from the age group 30-34 (56.7%) followed by 35-39 (50.8%). The lowest proportion of couples currently practising family planning is from the 15-19 age group—4.8% in rural and 10.4% in urban areas.

The number of surviving children for those who currently practise one or the other method, is important from the point of demographic impact. There is no doubt that this is most crucial in the case of those

who accept a terminal method like sterilisation. Considering all the methods together, it is seen that 92% of those currently practising in rural areas, are those having four or above four children. The corresponding percentage for urban areas is only slightly less at 90%. The fact that even during 1973-74 only a very small percentage (just 10%) of those who currently practise, have 3 or less than 3 children, shows that resorting to family limitation at earlier parities is restricted only to a very small group of acceptors.

7.4 Sample Design, Coverage and Results of KAP Conducted in SRS Units 1969 and 1971-72

In 1969, a simple family planning schedule was canvassed along with the Sample Registration, with the object of throwing light on the awareness of couples about family planning, knowledge of specific methods and practice of methods in the rural areas of Kerala. Though the survey was proposed to be conducted in all the 150 villages, only 94 villages could be covered. Besides this limitation of incomplete coverage, the survey did not cover all the married couples but only currently married males below 35 years.

The results show that about two-thirds of the persons contacted are aware of family planning; among those who are aware a substantial percentage does not know the methods of family planning. Sterilisation is the most known method. A large percentage of those who know the methods do not practise them, revealing a wide gap between knowledge and practice; only 13% of the persons contacted practised any method.

A second survey was conducted in 1971-72 in the SRS Units in both rural and urban areas. The items on which information was collected include age, religion and occupation along with the extent of knowledge and practice.

The survey was conducted in a randomly selected 10% sub-sample of the total SRS Units in each State, separately for rural and urban areas. In the selected sample units, the prescribed schedule was filled-in for all the currently married male members resident in the unit and having a spouse below 45 years of age. In Kerala, the survey was conducted in 16 rural and 6 urban units, interviewing 2,657 persons in rural and 766 persons in urban areas respectively.

The results relating to Kerala showed that 88.4% of those interviewed in rural areas and 89% in urban areas had knowledge of family planning methods. Regarding practice, 16.8% in rural and 13.7% in urban areas practised family planning methods. The percentage of those practising, out of those knowing family planning methods was

19% in rural and 15.4 per cent in urban areas. Considering rural and urban together, 88.5 per cent of the total interviewed had knowledge of family planning methods, while 16.3 per cent practised family planning methods. Among those knowing family planning methods 18.5 per cent had practised family planning methods.

Considering specific methods, it is seen that in the rural areas, 77.7 per cent know of sterilisation, 54.5 per cent know of loop and 46.5 per cent of condom. The same feature is seen in the urban areas also, where 74.2 per cent know of sterilisation, 51.2 per cent know of loop and 70.6 per cent of condom. The percentage of persons with knowledge of other methods, like diaphragm, jelly-cream tubes and foam tablets, is rather negligible.

Religious differential is seen in the matter of level of knowledge and extent of practice among the religious groups. In rural areas the percentage interviewed knowing family planning methods is 89.7 per cent among Hindus, 81.3 per cent among Muslims and 96.7 per cent among Christians; the percentage interviewed practising family planning methods is 9.5 per cent among Hindus, 7.3 per cent among Muslims and 21.2 per cent among Christians. Similar difference is seen in urban areas also.

Considering the broad age differentials in the matter of knowledge and practice in the rural and urban areas it is seen that 90 per cent of those below age 35 and 87.6 per cent of those above 35 years of age of those interviewed know of family planning methods in rural areas; the corresponding figures in urban areas are 86.7 per cent and 90.5 per cent. In the matter of practice, in rural areas the percentage interviewed practising family planning methods among below 35 age group, is 13.4 per cent and in the 35+ age group, 18.6 per cent. This difference is noticed in the urban areas too, where 8.2 per cent of those interviewed practise family planning methods in the below 35 age group as against 17.1 per cent in the above 35 age group.

Differentials based on educational level are also evident. In rural areas, 70 per cent of illiterates interviewed know family planning methods as against 92.5 per cent of those from the group "literate, graduate and above". Similar difference is seen in urban areas too—where 63.3 per cent of illiterates interviewed know family planning methods, and 91.9 per cent of the "literate" group and 100 per cent in "graduate and above" group. In the matter of practice in urban areas the percentage of literate (15.3 per cent) is almost double that of illiterate (7.8 per cent).

7.5 Study of Family Planning Practices in India by Operations Research Group, Baroda (1970-71)

This survey was undertaken with a view to study, awareness of family planning, willingness to practise birth control for limiting family size and spacing of children, knowledge of various birth control methods

and more especially of condom, usage of family planning devices, source of awareness, attitude towards various family planning methods, and exposure to various media, on a national scale. The survey was conducted during July 1970 to January 1971. The respondents were currently married and cohabitating women of 15-44 years and their husbands.

A multi-stage stratified sampling design was adopted for the survey. In all, 33,000 married individuals spread over 221 towns and 722 villages in India were interviewed. In each sample household, age, sex and marital status of each member were ascertained, the currently married men and women were enumerated and one of them sampled for the interview on family planning. In this survey, a distinction has been made between awareness and knowledge—awareness being just having heard of any method, while knowledge means the level enabling use of any method.

Results of the survey relating to Kerala show that 93 per cent of the couples are aware of at least one method. 87 per cent are aware of vasectomy, 82 per cent of tubectomy, 84 per cent of IUD and 57 per cent of condom. As regards practice the survey showed that 27 per cent of couples were current users and 4.6 per cent past users.

7.6 KAP Survey Conducted by the PEO of the Planning Commission as part of the Evaluation of Family Planning in India 1968 (September to December)

As part of the evaluation study by PEO data relating to knowledge, attitude and reaction were collected from 35 districts of India, by interviewing only the males. Questions covered the knowledge of the respondents about availability of services in the districts in general and the nearest PHC in particular, number and purpose of visits to PHCs, attitude towards limiting the size of the family, awareness about methods, knowledge about specific methods, reasons for not desiring more children, advantages of having few children, time lag between marriage and first child, interpregnancy interval, time of sterilisation, etc.

Two districts of Kerala were covered by this survey, namely, Quilon and Kozhikode. In the former district cent per cent of respondents reported as having knowledge of some family planning method. The corresponding figure for Kozhikode district was 84.5 per cent. 93.8 per cent of the respondents in Quilon and 65.5 per cent in Kozhikode reported as in favour of limiting the size of family. Coming to knowledge of specific methods 95.1 per cent of the general respondents in Quilon and 77.6 per cent in Kozhikode knew of vasectomy; 53.1 per cent in Quilon and 75.9 per cent in Kozhikode knew of tubectomy.

The percentage of respondents with knowledge of IUD was 85.2 per cent in Quilon and 81 per cent in Kozhikode, while in respect of condoms the percentages were 40.7 in Quilon and 58.6 in Kozhikode.

Regarding attitude towards family limitation, percentage of respondents liking to have more children was 19.8 per cent in Quilon and 37.1 per cent in Kozhikode. The percentage of adoption of vasectomy was 24.7 in Quilon and 5.2 in Kozhikode. In respect of tubectomy, very little difference is seen between the two districts in respect of percentage of adoption—1.2 per cent in Quilon and 1.7 per cent in Kozhikode. The percentage of adoption of IUD is 9.9 and 16.1 respectively in Quilon and Kozhikode districts while that of condom is 16.1 in Quilon and 5.2 in Kozhikode.

7.7.0 KAP Survey in Kerala 1958-59

The Demographic Research Centre of the BES has conducted two surveys on KAP in Kerala. A sample survey to assess the attitude of the people towards family welfare, knowledge of different family welfare methods, and the extent of practice was conducted in the nine district headquarters towns of Trivandrum, Quilon, Kottayam, Alleppey, Ernakulam, Trichur, Palghat, Kozhikode and Cannanore and another small town, viz. attingal near Trivandrum. The findings of this survey have enabled the administrators and policy makers to strengthen the base of family welfare programme in the state. The objectives of these surveys were the following:

1. To estimate the percentage of couples who favour family welfare.
2. To estimate the percentage of people who favour known methods of birth control.
3. To study differential fertility according to income and occupation.
4. To study spacing of births.

A stratified unistage sampling was adopted. The houses in a ward were stratified into four on the basis of annual rental value as assessed by the Corporation/Municipality authorities and ten houses were systematically selected from each stratum within each ward.

7.7.1 Family Size Norms and Ideals

The survey data indicated that majority of the couples are favourable to small family norm. The greatest preference is for two male and two female children. The number of respondents who desired more than four children is very low in all the centres.

7.7.2 Knowledge of Family Planning

The survey results revealed that married males and females did not have sufficiently good knowledge of family planning in many of the centres. Of the persons contacted, only in Quilon (34 per cent) and

Attingal (51 per cent) a fairly good percentage of husbands had sufficiently good knowledge of family planning. In Trichur, Palghat, Kozhikode and Cannanore only a small percentage of husbands had sufficiently good knowledge of family planning methods, as may be seen from Appendix-B, Table 1.

7.7.3 Source of Knowledge of Family Planning Methods

The percentage distribution of persons according to source of knowledge of family planning methods is given in Appendix-B, Table 2. It is seen that books and periodicals are the main source of knowledge for males who had sufficient knowledge ranging from 44 per cent in Quilon to 97 per cent in Cannanore. Females mostly reported the source of knowledge as doctors or clinics and the health department. The percentage under this category varies from 2 per cent in Trichur to 52 per cent in Trivandrum.

7.7.4 Knowledge of Different Family Planning Methods

In Appendix-B, Table 3 the percentage of distribution of husbands and wives according to knowledge of different family planning methods is given. It is often the case that a person having knowledge of contraception may have knowledge of one or more of these methods. Considering each person as many times as the number of methods known, it is seen that condom is known to 29 per cent males in Trivandrum, 20 per cent in Alleppey and 18 per cent in Palghat. Among females, 48 per cent have sufficient knowledge of safe period method in Trivandrum. 51 per cent of the wives in Trichur have knowledge of vasectomy. This is the highest percentage among the centres. Nearly 51 per cent wives in Palghat have knowledge about tubectomy.

7.7.5 Time of Obtaining Knowledge of Family Welfare

The percentage distribution of husbands according to time of obtaining knowledge is given in Appendix-B, Table 4. 42 per cent of husbands in Trivandrum, 40 per cent in Kozhikode, 56 per cent in Alleppey and 39 per cent in Palghat have reported knowledge of contraception before marriage. The majority of the husbands in most of the centres have acquired the knowledge before the birth of the second child.

7.7.6 Extent and Time of Practising Contraception

In Trivandrum, nearly 39 per cent of the couples have reported that they are practising family planning methods. In other places, the percentage of couples practising family planning methods is low. In Alleppey 20 per cent and in Trichur only 7 per cent are reported as practising family planning methods. In Trivandrum and Alleppey,

the largest percentage practises contraception between 1st and 2nd terminations. In Quilon and Palghat however, the highest percentage practises contraception after 5th termination. Appendix-B, Table 5 gives the percentage distribution of couples according to time of practising contraception.

7.7.7 Reasons for Delay in Practising Contraception

The distribution according to reasons for the delay in practising the known family welfare methods is given in Appendix-B, Table 6. The reasons given are the following.

1. Relations or traditional objections to using the method.
2. Religious or traditional objections of spouse.
3. Botheration or lack of privacy.
4. Doubtful of the effectiveness.
5. Injury to health and fecundity.
6. Question of family limitation or spacing not yet arisen.

7.7.8 Reasons for not Practising Family Planning Methods though known

The distribution of husbands, who know family planning methods but are not practising is given in Appendix-B, Table 7. This shows that a fairly high percentage, in Trivandrum (35) and Alleppey (22) does not practise because they feel the method not effective. In Palghat more than 53 per cent of the husbands who know family planning methods are reported as not practising because they cannot afford to practise the methods. It is thus clear that among husbands who know family planning methods, the main reason for not practising is doubtfulness about the effectiveness of the method.

7.7.9 Preference of Methods

Of the different methods, condom, safe period and sterilisation are preferred by a relatively high percentage, the reason stated being that these methods are effective. The reason for adopting "safe period" as a means of birth control device is that it is easy to practise. Thus, any particular method is preferred if it is effective, cheap, easy and does not interfere with enjoyment.

7.8.0 Resurvey on KAP (1971-72)

In order to measure the changes in the level of knowledge and practise a resurvey was conducted in 1971-72 in the same towns where the 1958-59 survey was conducted. Some of the results of this survey are given below :

7.8.1 Knowledge of Family Welfare

The 1958 results make a distinction between "vague" and "sufficiently good" knowledge. The 1972 survey only asks the question, "have you heard of any means of preventing births". In spite of this limitation in the wording for measuring knowledge, the 1972 results show that in all centres almost 100% of males knew about family welfare. This is in quite contrast to the very small percentages of husbands with even "vague knowledge" in all centres (except Cannanore) and still lower percentages with "sufficiently good" knowledge, in 1958.

An analysis of males with knowledge in the 1972 survey, shows that difference in knowledge among the various age groups is practically nil except in Cannanore, where about 16 per cent of the 40-44 age group and 13 per cent of the 45+ age group have reported as having no knowledge [see Appendix-B, Tables 8 and 8 (a)].

The fact that even among illiterate groups, cent per cent of the males (except in Cannanore where 23 per cent of the illiterates are reported as having no knowledge) have knowledge, go to show, the dent made by the mass communication efforts during the course of a decade and a half, as may be seen from Appendix-B, Tables 9 and 9 (a).

Differences among the various religious groups in the matter of knowledge, are practically non-existent in all the centres, except in Cannanore where 16 per cent of the Muslims are reported to have not heard of any means of preventing births [see Appendix-B, Tables 10 and 10 (a)].

7.8.2 Source of Knowledge of Family Welfare

Details about the source of knowledge are given in Appendix-B, Tables 11 and 11 (a). The corresponding details of the 1958 survey are given in section 7.7.3.

An analysis of the 1972 results reveal that the percentage of males whose source of knowledge is "Books and Pamphlets" has come down in most of the centres except Quilon. As against this, there is an increase in the percentage of males whose source of knowledge is "Doctors and Health Visitors" (combined) in some centres. The diffusion of knowledge of family welfare among males through "friends", seems to have gained ascendancy among the various sources between the two time periods of 1958 and 1972. The source of radio, as means of knowledge of family welfare is seen to be of a moderate scale in many of the centres, though the difference in this respect cannot be compared with 1958, for want of data for that year.

With regard to source of knowledge for females also, the predominant hold of "Books and Pamphlets" as a source of knowledge seems to have waned by 1972 and the role of "friends" has become more prominent. The trend towards modernisation, involving greater mobility of individuals and more frequent interaction among them seem to have changed the pattern of source of knowledge.

7.8.3 Attitude Towards Family Welfare

According to the 1972 survey, more than two-thirds of the males "approve any method to prevent pregnancy", in all centres except Cannanore. The highest (90 per cent) percentage of approval is in Trichur. Cannanore has lowest percentage (32 per cent) of approval. In the matter of approval, the differences among the various age groups is not significant in most of the centres—except in Cannanore, where the percentage of those who approve is very small (17 per cent) in the higher age groups of 45 and above.

The percentage of those who approve family welfare among females is less than those of males. Differences among the age groups are not very much in evidence. But in Cannanore centre the percentage of females approving any method to prevent pregnancy is higher than that of males. [See Appendix-B, Tables 12 and 12 (a).]

The positive relation between education level and the percentage of those who approve of any method to prevent pregnancy is evident. In most of the centres the percentage of those who approve among illiterates, is much less than those of the higher educational level. This trend is more patent among the females. In other words, increased educational standards of the females seems to have greater effect in raising the proportion among them, who approve methods of preventing pregnancies. [See Appendix-B, Tables 13 and 13 (a).]

The religion-wise approval of any method to prevent pregnancy, shows a smaller percentage among Muslim males in Trivandrum (51.3), Quilon (54.5), Palghat (32.4) and Cannanore (20.8). A similar feature is noticed among Muslim females also in centers like Trivandrum (43.5 per cent), Attingal (52.3 per cent) and Cannanore (46.5 per cent) (Appendix-B, Tables 14 and 14 (a).]

7.8.4 Practice of Family Welfare

In the matter of practice of family welfare methods the results of the 1972 survey show considerable variation from centre to centre, both for males and females. The range of acceptance by males varies from 27 per cent in Quilon and Cannanore to 57.4 in Trivandrum. Next to Trivandrum, Ernakulam has the highest percentage (54.8) of male acceptance. Considering the females separately the percentage of acceptance is lesser than that of males in all centres except Attingal.

The range of female acceptance is from 20·5 per cent in Cannanore to 50·7 per cent in Trivandrum. As in the case of males, next to Trivandrum, the highest acceptance is found in Ernakulam.

Age differentials in acceptance by both males and females are noticed in all centres. As for males, except in two centres of Trivandrum and Alleppey, the larger percentage of acceptance is in the age groups of 35-39 and 40-44. For females, the larger percentage of acceptance is from 40-44 age group in some of the centres, while in some others, the larger acceptance is found in 30-34 age group. Details of age-wise acceptance of males and females may be seen from Appendix-B, Tables 15 and 15 (a).

Similarly, the extent of practice varies considerably with educational status. For example, in Trivandrum in respect of males, while only 28 per cent of illiterates practise any method, 68 per cent of the "matric and the above" group practise some one method or other. Such wide differences among different educational categories are noticed in other centres also. The extent of variation among the educational categories is more glaring in the case of females with variation ranging from 9 per cent for "illiterates" to 36 per cent for "matric and above" in Quilon and from 18 per cent for "illiterates" to 44 per cent for "matric and above" in Palghat. The variation noticed in respect of both males and females goes to show the positive relation that exists between educational progress and family welfare acceptance. Details of the variation in the centres may be seen from Appendix-B, Tables 16 and 16 (a).

As seen in earlier paragraphs differential acceptance among the three religious groups is seen in most of the centres both in respect of males and females. The Muslims show a relatively lower acceptance rate than the other two religious groups. Details may be seen from Appendix-B, Tables 17 and 17 (a).

7.8.5 Ideal Size of Children for a Couple

Opinion regarding the ideal size of children for a couple, according to the large majority of males in many of the centres (like Attingal, Quilon, Alleppey, Kottayam, Ernakulam and Kozhikode) is 3. The percentage of males who favour more than 4 children as ideal is insignificantly small in all centres except Cannanore where it is 20 per cent. In the case of females also, the large majority in most of the centres (except Palghat and Cannanore) favour 3 children as the ideal size for a couple. As in the case of males, those females who favour above four children is very small except in Palghat where it comes to 44 per cent. In Cannanore the corresponding percentage is 14 per cent. [See Appendix-B, Tables 18 and 18 (a)].

7.9 Change in KAP over time

It is interesting to trace the changes in KAP over time, based on the results of the various studies given in the preceding paragraphs. The limitations of such an attempt should be borne in mind. In some studies a distinction is made between awareness and knowledge, while in others there is no such distinction. In some studies the percentages of those with knowledge or practice are given as those of husbands contacted, while in the case of others it is the percentage of couples contacted. In spite of such subtle differences in concepts, the trend over time can be seen, if one traces the results from 1958-59 to 1973-74 in respect of knowledge and practice of family planning methods.

During the early years of the commencement of the programme, when there were very little inputs for extension work and mass media for the propagation of the programme, the level of knowledge was very low. With increased tempo of inputs there has been a steady rise in the level of knowledge and the extent of practice. The improvement in the socio-economic conditions of the people also accelerated the move.

In respect of knowledge the increase is obvious. Considering the urban areas as a whole, nearly 34% of the husbands had either vague or sufficiently good knowledge of family planning methods in 1958. This rose to 99% by 1972. The average level of knowledge of females in 1972 is also nearly 99%. In 1960-61, 45.2% of the husbands in urban areas had knowledge of any specific method; this rose to 55.9% by 1967-68. At this time, 52.6% of the husbands in rural areas had knowledge of any family welfare method. By 1971-72, according to the family planning survey conducted along with Sample Registration, 88.4% of those interviewed in rural areas and 89% in urban areas had knowledge of family planning methods. The results of the ORG Survey (which relate to a period very near the SRS mentioned above) also shows that 93% of the couples are aware of at least one method. The results of the resurvey on KAP conducted in the district headquarters towns of Kerala in 1971-72 also show that in all centres almost 100% of the males knew of family welfare. The results of the latest year 1973-74, for which data are available from the 28th round NSS, show that in rural areas 72% of the couples have knowledge of vasectomy/tubectomy, 63% of IUD and 54% of condom. Evidently, knowledge of family welfare has become much wide-spread during the course of years.

With the above feature-namely increasing knowledge of family welfare over the years - the extent of practise has also increased, though not to the same extent. In 1960-61, 6.9% of the husbands in urban

areas (with wife below 45 years) practised family limitation. By 1967-68, among husbands with knowledge of family limitation in urban areas, the percentage was 19.1%, and this rose to 27.5% of couples by 1973-74. The ORG study of 1970-71 also revealed that 27% of the couples are current users, while 4.6% are past users.

But the increase in the extent of practice has not been commensurate with the increase in knowledge, as may be seen from a comparison of the trends in the above respects. The continuance of this gap between knowledge and practice without much reduction, causes room for concern. The future strategy has to be geared to the closing of this gap between knowledge and practice, which will lead to increased practice.

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CHAPTER VIII

CHARACTERISTICS OF ACCEPTORS OVER THE YEARS

8.0 Introduction

Existence of variation in the acceptance rate and in the methods of family limitation adopted among the various segments of the population in States and districts is evident in the performance of family welfare programme in India. A study of the socio-economic characteristics like age, religion, income, occupation, number of living children at the time of acceptance, etc., will be helpful for the policy makers and programme administrators to identify the various sub-groups of population who readily accept the programme and those who are not willing to accept the programme. In the light of this, the programme could be modified from time to time. The characteristics of persons who had accepted various family welfare methods during these years are presented in this chapter. The information is obtained from the registers maintained at the institutions, where the services are rendered.

8.1.0 Characteristics of Sterilised Persons

Sterilisation has come to occupy a very important place among the several methods of family welfare programme in the State. This is considered as an effective and safe method for both males and females for terminating their reproductive capacity.

8.1.1 Age

The ultimate aim of any family welfare programme is to reduce fertility in order to stabilise the growth of population. Age at which a person undergoes sterilisation is an important factor which determines the demographic impact of the programme. More births could be saved if persons accept sterilisation at a younger age than at a later age. The age distribution of vasectomised and tubectomised persons in Kerala from the very inception of the programme till the year 1973-74 is given in Appendix C, Tables 1 and 2. It is seen that there is a steady increase in the proportion of younger people among the total acceptors. The highest percentage of tubectomised persons belong to the age group 25-29 whereas among the vasectomised persons the highest percentage belong to the age group 35-39.

The table given below illustrates the increasing trend of younger people accepting the method since 1957.

TABLE 8.1—PERCENTAGE OF VASECTOMISED PERSONS BELOW 35 YEARS AND TUBECTOMISED PERSONS BELOW 30 YEARS

<i>Year</i>	<i>Vasectomised persons below 35 years of age (%)</i>	<i>Tubectomised persons below 30 years of age (%)</i>
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	42.6	56.1
1971-72	44.3	56.3
1972-73	49.2	60.6
1973-74	48.2	66.7

The percentage of tubectomised persons who had not attained age 30 has increased from 44.5 during the period 1957-67 to 66.7 in 1973-74. This means that two-thirds of the tubectomised persons would have saved substantial length of their reproductive period by way of accepting this method. The percentage of vasectomised persons below the age 35 has increased from 31.6 in 1957-67 to 48.2 in 1973-74.

8.1.2 Median Age

The median age of vasectomised and tubectomised persons shows a steady declining trend over the years. The median age of vasectomised persons has come down from 38.1 in 1957-67 to 35.2 in 1973-74, while that of tubectomised persons has come down from 33.8 to 28.0 during the same period. The relevant data are given below:

TABLE 8.2—MEDIAN AGE OF VASECTOMISED AND TUBECTOMISED PERSONS

<i>Year</i>	<i>Male</i>	<i>Female</i>
1957-67	38.1	33.8
1968-69	37.6	30.5
1969-70	37.0	29.5
1970-71	36.4	29.2
1971-72	36.0	29.2
1972-73	35.2	28.7
1973-74	35.2	28.0

8.1.3 Number of Living Children

The number of living children at the time of acceptance indicates the probable desired family size of the acceptor as also the likely impact of the programme on fertility reduction. The impact on birth rate is more if persons with less number of children accept sterilisation, than if they have more children at the time of acceptance. The percentage

distribution of sterilised persons according to number of living children over the years is given in Appendix C, Table 3. It is observed that the percentage of sterilised persons having 3 or less than 3 living children is steadily increasing over the years. Those having 3 or less than 3 living children was 25.4 in 1957-61 while it was 55.3 in 1973-74. Table 8.3 given below shows the percentage of sterilised persons having 3 or less than 3 living children at the time of operation.

TABLE 8.3—PERCENTAGE OF STERILISED PERSONS HAVING 3 OR LESS THAN 3 LIVING CHILDREN (1957-61 to 1973-74)

<i>Year</i>	<i>Percentage of sterilised persons with 3 or less than 3 living children</i>
1957-61	25.4
1961-62	26.8
1962-63	30.5
1963-64	32.4
1964-65	34.8
1965-66	36.8
1966-67	39.1
1967-68	42.7
1968-69	45.4
1969-70	46.5
1970-71	49.4
1971-72	51.4
1972-73	52.6
1973-74	55.3

During 1973-74, 20% of the total acceptors had undergone sterilisation while they had only two living children.

8.1.4 Average number of Living Children

The average number of living children to vasectomised and tubectomised persons for the period 1968-69 to 1973-74 is given in the table below:

TABLE 8.4—AVERAGE NUMBER OF LIVING CHILDREN TO STERILISED PERSONS 1968-69 TO 1973-74

<i>Year</i>	<i>Average number of living children</i>	
	<i>Vasectomy</i>	<i>Tubectomy</i>
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

The average number of living children for vasectomised persons has come down from 4.2 in 1968-69 to 3.3 in 1973-74 whereas for tubectomised persons it has come down from 4.4 to 3.7. A steady declining trend in the average number of living children is noticed in the case of both males and females who had undergone sterilisation over the years.

8.1.5 Education

The percentage distribution of sterilised persons according to educational level is given in Appendix C, Table 4. It is seen that the percentage of literates is more than the illiterates among sterilised persons. The percentage of "Matric and above" has been steadily increasing over the years. This shows that educated persons are favouring this method more and more. It is evident that the lower acceptance rate among the Muslim community is due to higher percentage of illiteracy among them.

8.1.6 Income

Data on income are usually found inaccurate since there is a tendency among the people to understate their income. No attempt is made to probe into the correctness of reported income. Hence the data on income distribution have serious limitations. The percentage distribution of sterilised persons according to income is given in Appendix C, Table 5.

Among sterilised persons the highest percentage is from the income group of below Rs. 100 per month. Recently, it is seen that more people from the higher income level are accepting this programme. During 1973-74 more than 10 per cent of the acceptors had reported a monthly income over Rs. 100 per month.

8.1.7 Occupation

The occupational distribution of sterilised persons is given in Appendix-C, Table 6. A comparison of the occupational classification of sterilised persons with that of the census classification is not possible. It is seen that the highest percentage of sterilied persons belong to the category of 'unskilled workers' over the year. Agricultural labourers and cultivators are not represented adequately among the sterilised persons though they form the bulk of the population in Kerala.

8.1.8 Religion

The percentage distribution of sterilised persons according to religion is given in Appendix C, Table-7. This shows that sterilised persons are drawn from all religious groups though Hindus form the

highest percentage. 70 to 74 per cent of the total sterilised persons are Hindus. The percentage of Muslims among the acceptors is 5 to 11 over the years. The percentage of acceptors among the Muslims is steadily increasing, though their proportion is less than that in the general population. But among Christians the percentage of the acceptors is near about the same as their proportion in the general population. Sustained motivational efforts have to be made to bring the eligible couples from the Muslim community to the fold of family welfare scheme.

TABLE 8.5: PERCENTAGE DISTRIBUTION OF THE TOTAL POPULATION AND STERILISED PERSONS ACCORDING TO RELIGION

<i>Religion</i>	<i>Percentage distribution of</i>	
	<i>Population</i>	<i>Sterilisation*</i>
Hindus	59.42	72.79
Christians	21.06	18.48
Muslims	19.52	8.73
Others	..	..
Total	100.00	100.00

* From inception to 1973-74

8.2.0 Characteristics of IUD Acceptors

Among the various methods of preventing births, IUD has a unique place. This method enables one 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. Though it is ideally suited for the newly weds, who would like to have their first baby after one year or two, and for those who require proper spacing after their first or second child, this method is not gaining in popularity. The analysis of socio-economic and demographic characteristics like age, number of living children, education, income, occupation and religion will help to identify the categories who are not favouring this method. The data used are based on the recorded information in the registers maintained in the institutions concerned. Besides this limitation, no adjustment is made for reinsertions done, cases of removal or of accidental pregnancies, due to paucity of detailed data on such items.

8.2.1 Age of IUD Acceptors

The age at which a woman accepts IUD is an important factor determining the success of the programme, by way of its impact on the birth rate. If more females of younger age groups and low parities

accept IUD, more births could be prevented. The percentage distribution of IUD acceptors according to age for the period 1966-67 to 1973-74 is given in Appendix C, Table 8. It is revealed that the percentage of younger females who had accepted IUD is gradually increasing over the years. The highest percentage of IUD acceptors belong to the age group 25-29. The table given below shows the percentage increase of IUD adopters who had accepted before they attained the age 30.

TABLE 8.6—PERCENTAGE OF IUD ADOPTERS AGED BELOW 30

<i>Year</i>	<i>Percentage of females adopting IUD before the age 30</i>
1966-67	48.63
1967-68	52.05
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 IUD adopters aged below 30 had increased from 48.6 in the year 1966-67 to 64.0 in 1973-74. This indicates that more young females show willingness to postpone further births by inserting loop. This is also reflected in the median age of the acceptors which is gradually declining over the years, as may be seen from the following table:

TABLE 8.7.—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	28.48
1971-72	28.20
1972-73	28.08
1973-74	27.85

8.2.2 Number of Living Children

The number of living children at the time of acceptance of IUD will give an idea about the timing of adopting this method by the acceptors. The percentage distribution of IUD acceptors according to

number of living children is given in Appendix-C, Table 9. The table reveals that the percentage of acceptors having fewer children is increasing over the years. The percentage of IUD adopters who had 3 or less living children at the time of IUD insertion is given below :

TABLE 8.9—PERCENTAGE OF IUD ACCEPTORS HAVING 3 OR LESS THAN 3 LIVING CHILDREN—KERALA

<i>Year</i>	<i>Percentage of IUD acceptors with 3 or less living children</i>
1966-67	44.86
1967-68	50.31
1968-69	60.19
1969-70	61.82
1970-71	66.57
1971-72	66.79
1972-73	68.40
1973-74	68.40

The percentage of acceptors having 3 or less than 3 living children has increased from 44.9 in 1966-67 to 68.4 in 1973-74. From this it is evident that more and more lower parity women resort to the insertion of IUD.

The percentage distribution of IUD acceptors according to number of living children for the year 1970-71 in India and Kerala is given below for comparison:

TABLE 8.10 PERCENTAGE DISTRIBUTION OF IUD ACCEPTORS ACCORDING TO NUMBER OF LIVING CHILDREN—INDIA AND KERALA—1970-71

<i>No. of living children</i>	<i>India*</i>	<i>Kerala*</i>
0	2.4	..
1	7.7	9.7
2	28.0	28.3
3	13.1	28.5
4	8.2	17.1
5+	40.6	16.4

* Source : Family Welfare Programme in India Year Book 1974-'75, Government of India.

8.2.3 Education

The percentage distribution of IUD acceptors according to education is given in Appendix-C Table 10. The highest percentage of acceptors belong to the educational status of "literate but below matric".

A gradual increase of acceptors with higher educational level is seen over the years.

8.2.4 Income

The percentage distribution of IUD acceptors according to income is given in Appendix C, Table 11. It seems that there is a tendency among acceptors to report low income, as in the case of the general population. Nearly 70 per cent of the acceptors had reported a monthly income below Rs. 100. The percentage of acceptors above the income level of Rs. 200 per month is showing an increasing trend over the years.

8.2.5 Occupation

The percentage distribution of IUD adopters according to occupational distribution is given in Appendix C, Table 12. It is evident from this table that this programme has not attracted the rural population as the percentage of cultivators and agricultural labourers is small. Large percentage of acceptors have reported their occupation as "unskilled workers".

8.2.6 Religion

The religious composition of the IUD acceptors shows that among the major religious groups in the State, Hindus predominate among IUD acceptors. Their proportion among the acceptors is more than that in the general population.

The percentage distribution of the IUD acceptors according to religion is given below :

TABLE 8.11—PERCENTAGE DISTRIBUTION OF GENERAL POPULATION AND IUD ACCEPTORS ACCORDING TO RELIGION

Year	Religion			
	Hindus	Christians	Muslims	Total
1971	59.42	21.06	19.52	100.00
<i>(General population)</i>				
1966-67	73.16	22.85	3.99	100.00
1967-68	73.73	18.89	7.38	100.00
1968-69	76.29	14.84	8.87	100.00
1969-70	77.88	16.35	5.77	100.00
1970-71	78.27	13.76	7.97	100.00
1971-72	73.59	17.76	8.65	100.00
1972-73	69.52	22.36	8.12	100.00
1973-74	70.86	21.60	8.14	100.00

It is seen that the percentage of acceptors among the Muslim community has been gradually increasing over the years. Against 19·5 per cent of the Muslims in the general population, the percentage of Muslims among IUD adopters is below 9 during all the years. Efforts are necessary to make the method more popular among Muslim community.

8.3.0 Characteristics of Acceptors of Camps

The mass vasectomy camps conducted in Kerala during the period 1970-71 helped in popularising sterilisation. The success of the first two camps conducted at Ernakulam led to the organisation of similar camps at Trivandrum, Cannanore, Trichur, Palghat, Kottayam and Quilon. The socio-economic and demographic characteristics of those who underwent sterilisation operation in the camps will indicate the groups of people who have been brought into the fold of the programme by the camp approach. The information given here is based on the data collected at the camp site by official agencies.

8.3.1 Age

In assessing the success of a camp it is very important to find out whether the right type of persons have been attracted to the camp. Age is an important factor to decide whether the right type had accepted the method. The percentage distribution of acceptors by age who have undergone sterilisation operation in camps is given in Appendix C, Table 13. More than 40 per cent of the vasectomised persons belong to the age below 40. In Trivandrum camp a higher percentage of younger people underwent the operation. But in Trichur and Cannanore there is relatively higher proportion of people aged above 40. In Trivandrum camp more than 60 per cent of the tubectomised persons had reported their age as below 30 years at the time of operation.

8.3.2 Median Age of Acceptors—A Comparison with other Camps

A comparison of the median age of vasectomised persons in different mass vasectomy camps held during the 1970's in various parts of India is given below :

TABLE 8.12—MEDIAN AGE OF VASECTOMISED PERSONS IN CAMPS IN VARIOUS STATES

<i>State and camp</i>	<i>Median age</i>
I. <i>U. P. State :</i>	
1. Balandshahr	40·4
2. Gorakhpur	40·8

<i>State and camp</i>	<i>Median age</i>
II. <i>Maharashtra:</i>	
1. Ratnagiri	33·3
2. Akola	41·2
3. Aurangabad	41·8
III. <i>Tamil Nadu:</i>	
1. Thanjavoor	40·6
2. Chinglepet	40·5
3. Ramanad	43·3
4. Madura	40·0
5. Coimbatore	38·3
6. Salem	37·2
7. South Arcot	39·8
IV. <i>Kerala:</i>	
1. Trivandrum	37·2
2. Ernakulam-I	39·1
3. Ernakulam-II	37·3
4. Trichur	40·2
5. Kottayam	35·5

Source: NIFP—"Vasectomy Camps—A Study"—New Delhi.

It is seen that the median age of vasectomised persons is low in Kerala compared to camps in other parts of the country, except in Ratnagiri.

8.3.3 Age of Wives of Vasectomised Persons

The age of the wives of vasectomised persons is an important factor to determine the demographic effect of the camp. The percentage distribution of the wives of vasectomised persons in the camps according to age is given in Appendix C, Table 14. It may be seen that more than 50 per cent of the wives of vasectomised persons in Trivandrum camp were below 30 at the time of the operation of their husbands.

8.3.4 Number of Living Children

Information regarding the number of living children at the time of the operation will give an idea of the extent of possible reduction in fertility that could be attained by the camp. The percentage distribution of vasectomised persons according to number of living children is given in Appendix C, Table 15. More than 40 per cent of the vasectomised persons has three or less living children at the time of sterilisation. In Trivandrum camp more than 50 per cent of the acceptors had only 3 or less living children at the time of operation.

In Trichur camp the proportion of vasectomised persons having more than 3 living children is more. The average number of living children to vasectomised persons in various camps is given below:

TABLE 8.13—AVERAGE NO. OF LIVING CHILDREN TO CAMP ACCEPTORS (VASECTOMY)

<i>Camp</i>	<i>Average No. of children</i>
Trivandrum	3.9
Ernakulam-I	3.8
Ernakulam-II	3.9
Cannanore	4.2
Kottayam	3.5

The average number of living children is least in the case of acceptors of Kottayam camp and highest in the case of acceptors of Cannanore camp.

TABLE 8.14—AVERAGE NO. OF LIVING CHILDREN—COMPARISON WITH OTHER CAMPS

<i>Camp</i>	<i>Average No. of living children</i>
I. U.P. State:	
1. Balandshahr	4.5
2. Gorakhpur	4.4
II. Maharashtra:	
1. Ratnagiri	4.3
2. Akola	4.3
3. Aurangabad	4.4
III. Kerala State:	
1. Trivandrum	3.9
2. Ernakulam-I	3.8
3. Ernakulam-II	3.9
4. Cannanore	4.2
5. Kottayam	3.5
IV. Tamil Nadu: (all camps)	3.4
V. Bihar:	4.0

Source: NIFP—Vasectomy Camp—A Study—New Delhi

In Kerala the average number of living children is low to acceptors except for Cannanore camp. The average number of living children is lowest in Tamil Nadu and highest in Balandshahr camp in U. P. State.

8.3.5 Occupation

The occupation-wise distribution of the sterilised persons in camps will give an idea of the various occupational groups who come forward to accept the programme. Agricultural labourers and unskilled workers form the highest percentage. This seems to indicate that the higher incentives paid to the camp acceptors have attracted the people from the lower strata like agricultural labourers and unskilled workers. The percentage distribution of sterilised persons in the camps according to occupation is given in Appendix C, Table 16.

8.3.6 Education

Educational attainment of a person is an important factor in any decision-making process and accepting or rejecting of family welfare methods depends on the educational level of the person. The percentage distribution of persons sterilised in camps according to educational level is given in Appendix C, Table 17. Among the sterilised persons 30 to 35 per cent in Trivandrum camp are illiterates. The percentage of illiterates among the sterilised persons in Ernakulam-I camp is only 12.4. The higher percentage of literates among the acceptors may be due to the higher literacy level in Kerala.

8.3.7 Religion

The percentage distribution of sterilised persons according to religion is given in Appendix C, Table 18. The percentage of Hindus among the vasectomised persons is higher in all camps. Muslims are under-represented compared to their respective proportion in the general population. The participation of Christians in the camps shows that they are favouring small family norm. In Trivandrum and Cannanore camps the percentage of Christians who accepted the operation is higher than their proportion in the general population. Though the percentage of Muslims in the general population of Cannanore district is 24.3 only 7.9 per cent of the camp acceptors belong to this community.

8.3.8 Comparison of the Characteristics of Acceptors under Normal Programme and Camps

It is of interest to compare some of the characteristics of acceptors under normal programme and the camps. The age distribution of sterilised persons under the normal programme (for the period 1957 to 1970) with those of camp acceptors shows that the proportion of older

persons (45 years and above) accepting this method out of the total sterilised is higher in camps. The relevant figures are 17.3 per cent for camp acceptors as against 10.3 per cent for acceptors under the normal programme. But the average number of living children at the time of sterilisation for the camp acceptors is 3.9, while it is 4.1 for those under the normal programme. Considering the educational status of sterilised persons, it is seen that the percentage of illiterates among camp acceptors is higher (25.0 per cent) compared to that under the normal programme (21.4 per cent). The religious break-up shows that the percentage of Muslims is relatively low in both cases.

8.4.0 Characteristics of MTP Acceptors

As already indicated in para 6.4 of chapter VI, the liberalisation of Abortion-Law has led to the increased acceptance of MTP, provided for under the law. The nature of this method is quite different from other methods of family limitation. Hence, it would be interesting to study some of the salient characteristics of MTP acceptors.

8.4.1 Age of MTP Acceptors

It is seen that more females in their teen ages or in their early twenties show a tendency for adopting MTP. The table given below shows the percentage distribution by age of those who adopt MTP.

TABLE 8.15—PERCENTAGE DISTRIBUTION OF MTP ACCEPTORS BY AGE

Age	1972	1973	1974	1975	1976
Below 20	3.3	4.3	5.0	5.4	6.8
20-24	18.7	23.3	25.7	26.8	27.8
25-34	50.4	52.4	51.5	51.4	50.4
35+	27.3	19.0	16.5	15.2	13.4
Not recorded	0.3	1.0	1.3	1.2	1.6
Total	100.0	100.0	100.0	100.0	100.0

Source: P. K. B. Nair—Socio-demographic background of acceptors of Medical Termination of Pregnancy—A Trend Report—Trivandrum.

As may be seen from the above table, the highest percentage of acceptors is from the age group 25-34. There is a decline in the percentage of acceptors in the age group 35 and above. This may be probably due to the fact that those females who want to limit the number of children they have, resort to permanent methods, after reaching their desired family size.

8.4.2 Other Characteristics of MTP Acceptors

These are considered in respect of MTPs done during 1972—76. In respect of the number of living children, highest percentage (25 per cent) had terminated pregnancies when they had two living children. Those with three or less than three living children form nearly 70 per cent. It is worth mentioning that 5 per cent of the acceptors had no children. This is not surprising, as 7 per cent of the acceptors are unmarried.

Regarding educational status of women who accepted MTP during the years 1972-76, out of a total of 25,583 recorded cases, 14.7 per cent of the acceptors are illiterates, 15.3 per cent are literates but below primary and 23.8 per cent are of primary standard. Only 5.5 per cent belong to educational status of above Matric.

The income groups to which the MTP acceptors belong show that the majority (64 per cent) is from the low income group of below Rs. 100 per month. The reason for the low percentage of acceptors from higher income groups may be either their adoption of other methods to prevent pregnancy or they might have utilised facilities of private clinics.

As in the case of other family limitation methods Hindus are favouring this method more than other religious groups. 71 per cent of the acceptors mentioned above are Hindus, 19 per cent are Christians and 9.7 per cent are Muslims. 92 per cent of the MTP acceptors are married females. 81.4 per cent of the cases are terminated between 12 to 20 weeks. An analysis of "reasons for termination" shows that 20 per cent of cases are due to "danger to life", 18 per cent due to "failure of contraceptives" and 51 per cent due to "environmental reasons".

8.5.1 Characteristics of Mini Laparotomy Acceptors

Mini Laparotomy or minilap is a device of female sterilisation, which has been adopted on a large scale in Kerala since February-March 1976. It is considered as one of the simplest and less expensive means of birth control. Because of the simplicity of the method and the short period of hospitalisation required, minilap is gaining popularity.

Coming to some of the salient characteristics of minilap acceptors it is seen that 55 per cent of the acceptors belong to the age group 20-29. Their median age is found to be 28.7 years, while that of their husbands is 37.1 years. In respect of the number of living children at the time of accepting minilap 64 per cent have three or less than three children. The percentage of illiterate acceptors is 26.1. Other belong to the literate group. But the percentage of those who have

attended college is very low, being 0.4 per cent. As in the case of other methods the percentage of Muslims among minilap acceptors is low. However, the proportion of Christians undergoing this operation is more than their proportion in the general population.

8.6 Conclusion

The demographic and socio-economic characteristics of the acceptors of various methods like sterilisation, IUD, camp acceptors, MTP and minilap acceptors have been outlined above. In respect of the more important methods like sterilisation and IUD, changing trend over time in their characteristics has been indicated. It is seen that the proportion of the younger age groups among sterilised is gradually increasing. The percentage of couples with more than three living children among sterilised (male and female) has come down during the years. These are encouraging trends. Though the programme has been less popular among Muslims in the initial stages, over the years their acceptance is increasing.

Among IUD acceptors also there is a falling trend in the median age. The majority of the acceptors have three or less than three children. The characteristics of the acceptors of mass camps are not significantly different from those under the normal programme. Studies relating to the characteristics of acceptors point to the need for devising means of ensuring a large proportion of acceptors from lower age and parity groups as well as the resistant groups.

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CHAPTER IX

PROGRESS OF FAMILY WELFARE ACCEPTANCE AND ITS DEMOGRAPHIC IMPACT

9.0 Introduction

The family welfare programme has been in operation in the State for nearly 23 years. As already described a cafeteria approach has been adopted for the successful implementation of the programme. The achievements of the various methods have varied from district to district. In this chapter it is proposed to examine these achievements and to indicate the district-wise variation. In order to measure the demographic impact of the programme, certain indicators like couples protected and births averted are worked out and presented. The reduction in birth-rate due to family welfare programme has also been indicated.

It is worthwhile, in this connection, to link the decline in birth rate with the achievements of the F.W.P. This is done by component analysis whereby the component of reduction due to F.W.P is specified.

9.1.0 Progress of Achievement over the Years

The progress of achievements on the F.W.P. front has been in keeping with the four distinctive phases of historical development of the programme in the State, mentioned in chapter V (section 5.1). The programme has offered a variety of methods, under the cafeteria approach. But the evolution of the programme over the years has turned out sterilisation as the most important component of the programme.

9.1.1 Sterilisation

During the first period of the programme (from inception to 1964) only 63,963 sterilisations were done. This forms only 5.8 per cent of the total achieved till the end of 1976, which comes to 11.0 lakhs sterilisations. During the six years from the year of major reorganisation (from 1965 to 1970), 3.5 lakhs sterilisations were done. This is 31.9 per cent of the total sterilisations done till 1976. As a result of the mass camps held from the end of 1970 till the beginning of 1973, 1.9 lakhs sterilisations were performed. Though there was a short fall in the number of sterilisations during the years 1973, 1974 and 1975, the achievement of 1976 has shown greatly increased tempo. The achievement during 1976, which alone number 2.7 lakhs sterilisations, exceed the performance of any single year during the past. In fact, the number of sterilisations done during the post-mass

camp period—namely from 1973 till the end of 1976—accounts for 43.7 per cent of the total achievement of 11.0 lakhs sterilisations, done till the end of 1976. The year-wise progress of vasectomies and tubectomies is presented in Appendix D, Tables 1 and 2 separately for calendar year and financial year.

It can be seen that the number of vasectomies has been higher than that of tubectomies from 1957 to 1973. The percentage of vasectomies has been higher than that of tubectomy during all the years upto 1973, though the former has varied from 84.4 per cent of the total sterilisations in 1966 to 52 per cent in 1958. However, during the years 1974 and 1975, the number of tubectomies has far exceeded the number of vasectomies; and the percentage of tubectomy was 73 and 68 during these two years. This feature is not discernible in 1976. Considering tubectomy alone, there is considerable pick up in the number during the course of years from 3,966 in 1964 to 24,192 in 1971 and 80,434 in 1976. There is twenty fold increase in the number of tubectomies from 1964 to 1976. The percentage of tubectomies out of the total sterilisations done, during the years 1974, 1975 and 1976 are 73.2, 68.2 and 30.2, respectively as against 18.1 per cent in 1964 and 24.0 per cent in 1971. The reasons for the recent increase in tubectomy may be the introduction of minilap. This has made the female sterilisation much simpler and could be done at any time.

9.1.2 Intra Uterine Device (IUD)

The IUD programme which was started in 1965, had a good initial start but slowly came down in numbers. The achievement reached a very low figure of 15,690 in 1973. Since then, there has been a gradual rise in the number of IUD insertions reaching 26,039 in 1974, but slightly coming down to 22,720 in 1975 and 24,961 in 1976. It seems that the simple nature of the vasectomy operation as well as the popularisation of the minilap operation for females on the one hand and the reported side effects of IUD on the other, have reduced the acceptability of this method very much.

9.1.3 C. C. Users

Since 1970, there is noticeable increase in the issue of conventional contraceptives (CC). Among the various methods, Nirodh is the most popular. Latest figures show that other methods are not being accepted by the people. In Appendix D, Tables 1 and 2, the number of CCs issued is given in terms of CC users. The equivalent number of CC users is arrived at by dividing the off-take of condoms, diaphragms, jelly/cream tubes and foam tablets by 72, 2, 7 and 72 respectively, require on an average by a couple in a year to give complete protection. In this calculation, only the off-take of contraceptives is considered. The figures show steady increase in the number of CC users since 1973, except during 1976.

9.2 Equivalent Sterilisations

Since the effect of various methods differs in their efficiency and the relative proportion of each method varies from year to year, the achievements of different methods are brought to a common standard known as equivalent sterilisations, which show the combined achievement of all methods. This is arrived at by adding up, the actual number of sterilisations, one third of IUD insertions and one eighteenth of the CC users*. Till 1962, the number of annual equivalent sterilisations has been well below 10,000. From 1965 to 1975 it has been around 50 to 90 thousand. During 1971 and 1972, the figure exceeded one lakh but came down slightly during the next three years 1973, 1974 and 1975. The number of equivalent sterilisations reached the peak figures of 2.8 lakhs during the year 1976, as a result of the increased achievement of sterilisations during the year. The cumulative achievement of equivalent sterilisations done upto the end of 1976 works out to 12.4 lakhs, giving a rate of 51.4 equivalent sterilisation per 1000 population of 1976. The rate per 1000 married women of reproductive age group 15-44 years (estimated as 33.1 lakhs in 1976) works out to 374 equivalent sterilisations, since inception to 1976. As this does not take into account the attrition due to aging, mortality, etc., the number of equivalent sterilisations may not be the same as the number of couples protected in the population.

9.3.0 Achievement of Targets

Targets are set for the various methods of family welfare for each year. These are shown in Appendix D, Table 3 along with the achievements, in respect of the more important methods, namely, sterilisation and IUD. It may be seen that during the two years, namely, 1971-72 and 1975-76, the achievement of sterilisation has exceeded the target. The mass camps have helped the achievements to exceed the targets in 1971-72, while the increased tempo of activities has been responsible for this in 1975-76. During the rest of the years (except 1972-73) more than 50 per cent of the target has been achieved.

The percentage of target achieved in respect of IUD is far below, during most years. The percentage of target achieved, touched a very low figure of 33 per cent during 1971-72, probably because of the increased popularity of the mass sterilisation camps held during the period. However, during 1973-74 and 1974-75, the achievement was 96 per cent and 87 per cent respectively.

*The previous norm was one twelfth of CC users.

9.4 Indicators of Achievement—State Level

Apart from figures of absolute achievement or the percentage of annual target achieved of various methods, it is worthwhile to consider some indicators, which would reveal the relative achievements over time and space.

Appendix D, Table 4 gives the number of acceptors of various methods while table 5 gives the rate of vasectomy and tubectomy per 1000 population over the years from 1967-68 to 1975-76. The fluctuations in the rates of vasectomy at the State level are evident, touching a peak of 5.7 during 1971-72 and the lowest figure of 0.7 in 1973-74. In contrast, the rate of tubectomy shows a steady rise from 0.6 in 1967-68 to 2.7 in 1975-76.

The rate of vasectomy per 1000 male population for the State has increased from 5.5 in 1967-68 to 11.9 in 1971-72 but came down to 1.6 in 1974-75 and then rose to 8.2 in 1975-76. In contrast the rate of tubectomy per 1000 female population has been steadily increasing from 1.1 in 1967-68 to 5.2 in 1975-76. These two rates are given for the State and district in Appendix D, Table 6. The rate of IUD insertion per 1000 female population is given in Appendix D, Table 7. This shows a steady decline from 3.7 in 1967-68 to a low figure of 1.7 in 1971-72, but has slightly risen to 2.4 in 1975-76.

A still more refined measure of sterilisation coverage will be, the rate of acceptance per 1000 married women of 15-44, as in the normal course only married women or their husbands will get sterilised. As the husbands of married women of 15-19 age group (or the women of that age group) are not likely to adopt sterilisation which is a permanent method of preventing pregnancies—even if they accept sterilisation, their number will be very small—the rate has been calculated per 1000 married women in the age group 20-44. The base will thus be the number of eligible couples in the population. The two rates for the various years are given district-wise and for the State in Appendix D, Table 8. This rate for those who have been protected through sterilisation of their husbands has reached the high figure of 43.9 during the years of mass camps (1971-72) and came down to 5.1 during 1973-74. For the year 1975-76, the number of vasectomies per 1000 married women in the age group 20-44, comes to 30.9. In respect of tubectomies, the rate has steadily progressed from 4.2 in 1967-68 to 20.2 in 1975-76. The IUD adoption rate per 1000 married women of 20-44 age group, ranges from 14.5 in 1967-68 to 7.9 in 1974-75. The corresponding rate in respect of C.C. user ranges from 9.8 in 1968-69 to 11.5 in 1971-72 and 7.7 in 1975-76.

9.5 District Level Variations in Achievements

In the programme of family welfare, variations in achievements among the districts with different levels of socio-economic development

are natural. The variations are observed in absolute achievements as well as in their rates. From Appendix D, Table 4, it may be seen that out of nine years (1967-68 to 1975-76) Trivandrum district tops the list except during the years of mass camps (namely 1970-71 to 1972-73) when Ernakulam district tops the list. During 1973-74, Quilon leads all other districts. The higher performance of Trivandrum district may be due to better facilities as regards beds and doctors available in the district and the improved socio-economic conditions. Similarly in respect of IUD insertions also, during the first five years of the period covered, the highest number of IUD insertions is in Trivandrum district. In the years from 1972-73 onwards, the highest achievement in respect of IUD has shifted to Alleppey (1972-73), Quilon (1973-74), and to Palghat (1974-75). In the year 1975-76, Alleppey district leads other districts with 5253 I.U.D. insertions. The northern districts of Malappuram, Kozhikode and Cannanore have always been on the low side as regards performance of this method.

9.6 Variations in Rates

More than the differences in the absolute figures of achievement the rates per 1000 population, per 1000 male and female population and the rate per 1000 married women of 20-44 age (Appendix D, Tables 5 to 8) reveal the variations in a more meaningful way. These rates show variations over time and among the districts. The rate of tubectomy per 1000 female population is less than that vasectomy per 1000 male population except, during the years since 1973-74, when the number of tubectomies seems to have picked up relatively. When we consider the number of vasectomies, as well as tubectomies per 1000 married women of 20-44 years of age (Appendix D, Table 8) the rate of the four northern districts of Palghat, Malappuram, Kozhikode and Cannanore are much lower than those of other districts and the State except during the year 1975-76 and that too in respect of vasectomy only.

The district-wise rates of IUD insertion per 1000 female population (Appendix D, Table 7) generally show a downward trend over the years from 1967-68 to 1975-76. Besides, the rates are very low for the districts of Cannanore, Kozhikode and Malappuram.

9.7 Variation in Equivalent Sterilisations

The combined effect of various methods expressed in terms of equivalent sterilisation shows progress over the years in respect of all districts (except Palghat) from the base year of 1966-67 to 1975-76, except for certain shortfall in the case of some districts during 1972-73 and 1973-74 (see Appendix D, Table 9).

On the basis of the cumulative achievements in terms of equivalent sterilisations done from 1966-67 to 1975-76, the districts can be grouped into three—Those which have done well—that is above one lakh.

Under this category come the districts of Trivandrum, Quilon and Ernakulam. Under the group of districts with medium level of achievements comes Alleppey, Kottayam, Trichur and Kozhikode. The two districts with low level of achievement are Cannanore and Palghat, the later having the lowest achievement. Malappuram and Idukki districts have not been considered for this grouping, as the figures from 1966-67 onwards are not available for these districts. Achievements of the districts for the years in terms of the rate of equivalent sterilisations per 1000 population as well as the rate of cumulative achievement may be seen from Appendix D, Table 10.

9.8 Achievements at P. H. C. Level

Appendix B, Table 11 provides the number of equivalent sterilisations done by each P.H.C. up to 1974-75 and the rate of equivalent sterilisations per 1000 population (based on 1971 census population of each P.H.C.). From the rates worked out for 142 P.H.Cs. (or P.H.C. groups) it is seen that only ten P.H.Cs. have achieved a rate of 20 or above equivalent sterilisations per 1000 population; while three have the singular distinction of having attained only less than one equivalent sterilisation per 1000 population. The frequency distribution of PHCs, based on equivalent sterilisations per 1000 populations is given below :

<i>Rate of equivalent sterilisations 1000 population, up to 1974-75</i>	<i>No. of primary health centres</i>
Below 1	3
1—4	53
5—9	52
10—14	19
15—19	5
20—24	4
25+	6
	142

Only 34 P.H.Cs. in the State show a rate of 10 or above equivalent sterilisation per 1000 population. The highest rate of achievement (41.4 equivalent sterilisations per 1000 population) is for Thrikkadavoor P.H.C. in Quilon district and for Muhamma in Alleppey district. The highest rate of achievement in Trivandrum and Kottayam districts, is for Kanniakulangara and Edayazham P.H.Cs. respectively. The rate of achievement is found to be very low in most of the P.H.Cs. of Trichur, Palghat and Malappuram districts. As for Kozhikode and Cannanore districts, the rate of achievement exceeds ten only in three P.H.Cs.

9.9 Indicators of Demographic change

The ultimate objective of the FWP is to bring about a reduction in fertility, which will result in the reduction of rate of population growth in the State. The attainment of the above objective through FWP is fostered by complementary factors arising from socio-economic development—like spread of education, health facilities, rise in the average age at marriage and improvement in standard of living. As the reduction in fertility attained during the course of years is the combined result of the direct effects of FWP and the indirect effects of the developmental factors mentioned above, measurement of the impact of the FWP on fertility requires a break-up of the total effect into its components.

Indicators have been developed to measure the impact of the programme on the birth-rate. In spite of the inherent limitations, these indicators reveal the degree of achievement and the work that yet remains to be done. The more important of the measures used in India for assessing the demographic impact are the extent of eligible couples protected, the number of births averted and the impact of the latter on the birth-rate. The number of averted births indicates the births that would have taken place but for the FWP and on that basis the impact on the birth-rate is measured.

The problem of measurement is made more complicated by the varying efficacy of the different methods used. In the case of sterilisation, which is a permanent method, saving of births continues during each subsequent year after sterilisation, till the death of one of the spouses or the passing of the reproductive age of the women. As such sterilisation has a carry-over effect for several years. In the case of IUD, though there is a carry-over effect for some years, other factors like expulsion, removal and accidental pregnancy may terminate protection. In the case of CC, protection from pregnancy lasts only as long as it is used and hence has no carry-over effect.

9.10 Model for Calculation of Birth Averted :

Keeping in view the above problems Sri S.P. Jain (1) has developed a model for calculating the number of births averted by the various methods. Some of the assumptions on which the model is based, such as that the ASFRs of acceptors and those of the general population are equal, may not be beyond question. Limitations like wrong reporting of the age of acceptors are also well-known. However, this model is accepted and used by the Government of India with minor modifications. Using the same model, but using the parameters

1 Jain S. P. - Estimation of Population Growth under Family Planning Programme—The Journal of Family Welfare—Vol. XVI—No. 1—September 1969.

for Kerala (like the age distribution of acceptors, joint survival ratios and ASFRs) a study has been conducted in a paper⁽²⁾ by Dr. R.S. Kurup issued from the DRC of the Bureau of Economics and Statistics, Trivandrum. In this paper, the births that would be averted by one sterilisation, one IUD and one CC user in the years following the year of performance, have been worked out for both calendar and financial years. These values are given in Appendix D, Tables 12, 12 (a) and 12 (b). Using these constants, the number of births averted during each year by the current year's performance and the carry-over effect of previous years up to 1972, and the impact on birth-rate have been worked out in another paper⁽³⁾. Using the same constants, the births averted have been worked out up to 1976 and 1976-77, and are given in Appendix D, Tables 13 and 14. Based on the births averted the impact on birth-rate has also been calculated and presented in Appendix D, Table 15.

The methodology provides for calculation of the number of couples protected, after allowing for mortality in respect of sterilisation. For IUD, which is considered 95% effective, besides mortality, expulsion and removal, have also been taken into account. For CC users there is no carry-over effect, but 60% effectiveness has been assumed. By using these attrition rates, the couples protected have been worked out and presented in Appendix D, Table 16.

A point that requires attention in this context is the change in age-distribution of acceptors from time to time. As an illustration, the change in age-distribution of wives of sterilised couples is as shown below:

<i>Age of wife</i>	<i>Percentage of sterilised couples adopted in the model</i>	<i>Percentage of sterilised couples during the years</i>	
		1972-73	1973-74
15—19	..	0.44	0.43
20—24	15.40	19.31	23.09
25—29	34.44	40.88	43.14
30—34	27.78	24.30	21.09
35—39	18.40	12.84	10.55
40—44	3.98	1.95	1.52
45+	..	0.28	0.18
	100.00	100.00	100.00
Median age	30.1	28.7	28.0

² Kurup R. S.—Paper No. 78 of Demographic Research Centre, Trivandrum—A note on the calculation of births averted due to the Family Planning Programme in Kerala—October 1973.

Kurup R. S.—On the effect of the Family Planning Programme on the birth-rate in Kerala—Paper No. 77—September 1973.

It can be seen that there is some improvement in the age-distribution in the later years compared to that in the model adopted. The median age has also declined from 30.1 years to 28 years in 1973-74. Naturally the births averted might have increased in these years, as compared to that worked out on the basis of the model age-distribution. Though it is hoped that the variations will not be of very great dimensions, it is safe to assume that the number of births averted as adopted here will be a lower bound to the actual number of births averted if worked out on the basis of improving age-distributions of acceptors.

9.11 Couples Protected

The number of married women in the reproductive age group 15-44, according to 1961 census is 25.5 lakhs. This has increased to 29.8 lakhs by 1971. This means that during the decade the average annual increase of married women of the above age group is of the order of 42,600. Based on the number of married women in each of the reproductive age group in 1971, the total married women in the 15-44 age group for 1976 is estimated as 33.1 lakhs. The average annual increase since 1971 is estimated as 66,800. This estimate of net annual addition is indicated to show, that if the number of couples protected by all the methods together in an year is less than the above annual addition, the situation will not in any way be better. An estimate of the number of married women of age group 15-44 protected so far, will provide the extent of coverage so far attained.

Up to the end of 1964 (that is the end of the first phase of development) only 2.3% of the then estimated 26.8 lakhs couples were protected by the programme. This was entirely due to sterilisation. However, by the end of 1970, due to extension of services, the introduction of IUD and the beginning of mass camps, the percentage of couples protected rose to 16.2. Of this 12.9% was due to sterilisation, 3% was due to IUD and 6.3% by CC. The two years 1971 and 1972, which mostly cover the period of mass camps, saw the above percentage being raised to 18.7% and 21.1% respectively. This rise was mainly accounted for by sterilisations. By the end of 1976, the percentage of couples protected has risen to 31.8% of the estimated total of 33.1 lakhs. Details are presented in Appendix D, Table 16.

9.12 Births Averted by Family Welfare Programme

The total number of births averted up to the end of 1964 was only 0.1 lakh. This is entirely accounted for by sterilisation. By the end of 1970, the number of births averted had gone up to 1.1 lakhs, by all the methods together. During the years of mass camps, namely 1971 and 1972, the births averted increased to 1.2 lakhs and to 1.4 lakhs respectively, due to the boosted achievements of camps and the carry-over effect of previous years. During the four years from 1973 to

1976, the number of births averted is 6.9 lakhs. The performance of sterilisation during 1976 (which comes to 2.7 lakhs) alone has contributed to 0.2 lakh births averted in that year. The cumulative number of births averted since inception of the programme till the end of 1976 is 13.7 lakhs for all methods together. Of this, 11.5 lakhs is due to sterilisation, 2.0 lakhs by IUD and 0.2 lakh by conventional contraceptives. If the financial year is considered the cumulative achievement up to the end of 1975-76 is 11.4 lakhs. Year-wise (both financial and calendar year) details are given in Appendix D, Tables 13 and 14. The future saving of the births averted as a result of the achievements of sterilisation and IUD up to the end of 1976, is estimated as 16.3 lakhs (up to 1998) and 0.5 lakh (up to 1986) respectively. The future effect of sterilisations done during 1976 (for 23 years from 1977 to 1999) alone is 6.6 lakhs.

It may be mentioned that in the above calculations the effect of non-programme methods has not been taken into account. The use of other methods like abstinence, rhythm, withdrawal, oral pills and acceptance of the usual methods outside the fold of the official programme, would also contribute to birth prevention. Based on the ORG (4) study, the effect of the non-programme methods is estimated to be $\frac{1}{4}$ of the total births averted by all the methods together.

9.13 Impact on Birth rate and Population Growth

Having considered the extent of protection from pregnancy given to women in the reproductive age group (15-44) and the number of births averted by the official programme methods, it is only appropriate to consider the impact of these on birth and population growth rates.

In paper number 78 of the DRC (5) the effect of the programme on birth-rate till 1972 has been worked out as follows :

The calculations have started with the estimated population figures of mid 1957. The official estimated birth-rate of 1951-60 of 38.9 per 1000 population has been accepted as such. The number of births that would have occurred, had this birth-rate continued, have been calculated and from this the estimated number of births averted (adding $\frac{1}{4}$ of the total births averted by official programme methods for non-programme methods) have been deducted to arrive at an estimate of the actual births during each year. The official census estimate of death rate, namely, 16.1 during 1951-60, is assumed to decline linearly up to 1972, for which year the SRS estimate is 9.7. After

4. Operational Research Group—Baroda—Family Planning Practices in India 1972.

5. Kurup R. S.—Paper No. 78 of Demographic Research Centre, Trivandrum—A note on the calculation of births averted due to the Family Planning Programme in Kerala—October 1973.

1972, the death rate of 9.7 is assumed to remain constant. The calculations thus made show that till 1964, the birth-rate had not changed at all. By 1964, when only 11,570 births had been averted the birth-rate was 38.2. It was from 1966, the middle of the decade 1961-71, that the birth-rate has shown signs of slow decline. Since then, the decline has continued every year and reached 31.8 by 1972.

As for the subsequent years of 1973 to 1976 the above procedure has been extended. This is done by applying the number of births averted, calculated on the basis of the actual achievements of each of the programme methods during the years 1973 to 1976. These results show that the birth-rate has come down to 30.0 by 1976, (See Appendix D, Table 15) as against the SRS estimate of 28.5. It may be mentioned that the latter estimate also takes into account the effect of other factors like the reduction in age at marriage and changes in the proportion married among the different age groups. For purposes of comparison, the birth-rates obtained by working out the births averted and the sample registration estimates for some years are given below:

<i>Year</i>	<i>Birth-rate by working out the births averted</i>	<i>SRS (rural) estimates of birth-rates</i>
1968	34.8	34.3
1969	33.9	33.3
1970	33.2	32.3
1971	32.5	31.9
1972	31.8	32.1
1973	31.1	29.9
1974	30.8	27.0
1975	30.7	28.2
1976	30.0	28.5

As a result of births averted, the birth-rate has declined by 8.9 points by family welfare alone, from 38.9 during 1951-60 to 30 by 1976—a reduction of 22.9% during 20 years. It may be pointed out here that due to factors like improvement in health and mortality conditions of the people, there are pronatal tendencies in the population. On the other hand, apart from family welfare, the effect of changes in age-distribution, marriage rates, and age at marriage to which the population exposed to fertility undergoes changes also results in lowering of birth-rate. It has been estimated that the contribution of family welfare to reduction of birth-rate was 84.8% in 1973 and 69.2% in 1974 (*).

*. Kurup R. S.] —Sample Registration Report Series No. 11, Bureau of and Cecil S.] Economics and Statistics, Trivandrum.

The difference between the birth-rate and death-rate (natural increase) which stood at 22.8 during 1951-60 (38.9—16.1) has declined to 20.3 by 1976, based on the birth-rate worked out by births averted and the assumed constant death-rate of 9.7. If the S.R.S. estimates of birth and death-rates 1976 are considered, the natural increase has declined to 20. Thus all available indications go to show that the rate of growth of population has come down to the order of 2% per annum. It may be mentioned here that the all India S.R.S. estimate of birth-rate for 1975 (provisional) is 35.2 which shows a reduction of only 6.5 points from 41.7 of 1951-60. Thus the rate of decline in Kerala is faster than in India as a whole. The population of Kerala has reached the original goal of reduction of birth-rate to 32 by the end of the 4th plan period (1973-74). But in view of the set back received by the programme during 1977, the rate and course of its picking up is rather unpredictable. However, the pick up in M.T.P. and the operation of other favourable socio-economic factors in the State (like increasing and well spread out health facilities, increasing age at marriage and educational advancement) will counteract the recent set back and could be expected to increase the tempo of fertility reduction in the years to come. In paper 78 of D.R.C. referred to in the beginning of this section, it was estimated that a birth-rate of 24.6 could be reached by 1980, by assuming that between 1973 and 1980, the target of 10,09,000 sterilisations and 3,80,000 IUD insertions would be achieved. Against this, during the four years of 1973 to 1976 only 4,78,660 sterilisations and 89,410 IUDs. could be achieved. The 1977 achievements are only 55,347* sterilisations and 7,348* IUD insertions.

Hence, to attain the goal of reaching a birth-rate of 25 by 1980 in the three years between 1978 and 1980 considerable efforts will have to be made on the F.W. front—at least 4.8 lakhs sterilisations and 2.8 lakhs IUD insertions will have to be done.

9.14 The Work yet to be Done

Though the total number of couples protected by the various methods given above indicates the coverage of the official programme, it would have been more enlightening if the age/parity profile of the total married women in the reproductive age group, as also the corresponding profile of the couples so far protected were available so as to give a detailed picture of those that yet remain to be covered. But unfortunately such a detailed age/parity picture is not available. However, based on the age distribution of females and the proportion married from each group, as obtained from 1971 census, it is possible to estimate the number of married women in each of the five year age group from 15-19 to 40-44.

*Provisional

The age distribution of the couples currently protected up to 1976 by sterilisation only has been arrived at in the following way. The age distribution of tubectomised persons for the period 1957-67 and for each year from 1967-68 onwards are available. From this, the cumulative number of tubectomised persons from each age group up to 1975-76, and their percentage distributions are obtained. In the case of vasectomised persons also, similar age distribution is available. In order to obtain the age distribution of the wives of vasectomised persons, a difference of five years between husbands and wives has been assumed. The percentage age distribution of vasectomised persons of each five year age group, has been brought down to the next lower five year age group, to obtain the percentage age distribution of the wives of vasectomised persons. The distribution thus obtained has been combined with the percentage age distribution of tubectomised persons, thus providing an approximate age distribution of the married women in the reproductive age group currently protected by sterilisation. This along with the age distribution of the estimated total number of married women in the age group 15-44, will provide the number and age distribution of women yet to be covered. In this, the women currently protected by IUD (which comes to nearly 65,000) has not been taken into account. Besides, the effect of shifting of age group over time has not been taken into account. In spite of these limitations, the details worked out and presented in the table below provide a broad picture of the couples already protected and those who remain unprotected.

TABLE NO. 9.1—NUMBER AND PERCENTAGE AGE DISTRIBUTION OF MARRIED WOMEN 15-44, THE NUMBER CURRENTLY PROTECTED BY STERILISATION AND THE BALANCE TO BE PROTECTED IN EACH AGE GROUP

Age group	No. and % distribution of married women 15-44 (1976)		No. and % distribution of women currently protected by sterilisation (1976)		No. and % distribution of women who remain unprotected by sterilisation (as at the end of 1976)	
	No.	%	No.	%	No.	%
15-19	243937	7.4	8744	0.9	235163	10.1
20-24	722001	21.8	151100	15.5	570901	24.4
25-29	687417	20.7	287577	29.5	399850	17.1
30-34	600930	18.1	269055	27.6	331874	14.2
35-39	625216	18.9	187169	19.2	438047	18.7
40-44	434756	13.1	71163	7.3	363593	15.5
Total	3314267	100.0	974839	100.0	2339428	100.00

It is clear from the above that 23 lakhs of couples are not protected by terminal methods; of these 0.7 lakh have been protected by IUD. The two methods IUD and sterilisation together protects 31.8% of couples. It has been mentioned already that to attain a birth-rate of 24.6 per 1000 population, 10 lakhs of sterilisations and 3.8 lakhs of IUD insertions have to be performed up to the year 1980.

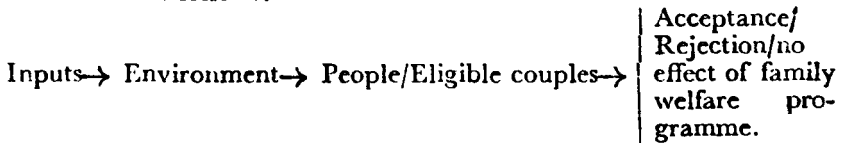
As Kerala has already reached the goal of birth rate reduction to 30 per 1000 to be attained at the all India level by the end of the 6th plan, the goal can be only the reduction to 25 or 20 per 1000 by the end of the 6th plan. In view of the very high density of population and the concomitant economic and social problems, this goal has to be positively attained and no efforts could be spared on any account so as to achieve this objective.

CHAPTER X

EFFICIENCY AND EFFECTIVENESS OF THE PROGRAMME INPUTS

10-0 Introduction

The evaluation of the effectiveness of a programme like the FWP should attempt at the assessment of the utilisation of the programme inputs or an examination of how far the inputs could produce the results expected. The variations in the performance have to be studied on this basis, as also, on the basis of the prevailing socio-economic conditions of the people. These two types of variables are known as input variables and environmental variables or endogenous and exogenous variables. The exogenous variables usually refer to indices of modernisation or development such as literacy, urbanisation, percentage of various categories of people like scheduled castes and scheduled tribes who are considered as underdeveloped, utilisation of improved methods of cultivation, industrialisation, etc. The input variables are the specific inputs in men, money and materials for the programme. The model is as follows:



Naturally, the mode of operation of the input variables is directly on the population (or eligible couples) or indirectly through the environmental variables or both. In any case, any action of the input variables will produce a chain reaction which will end finally in acceptance or rejection of the programme in a fixed period of time; in the latter case of rejection the efforts or the inputs will have to continue. It may also happen that there is no effect on the eligible couples or population in a fixed period.

There is also the style of programme management which itself is a major contributing factor for the success of programmes. Quantification of this is often difficult as it involves the measurement of variables like the cohesiveness of the group, the quality of supervision, the mode of communication that takes place among the members, etc. These are sometimes known as organisational variables. Thus the model can be conceived as follows :—

Programme Performance (P) } is a function of inputs (I), environmental variables (E) and organisational variables (O)

$$P = F(I, E, O)$$

As the programme is implemented in the rural areas by the PHCs, on the basis of the instructions and guidance provided from higher levels, the extent of variations among the PHCs is an interesting topic of study.

The rural areas of the State fall under various Community Development Blocks. Each block has one PHC; in some cases there are two PHCs in a block. Information on the environmental variables are available for each block from census data but not for each PHC. Hence the block is taken as unit of study, clubbing the information in the PHC under the block into one set.

10.1 Measures of Efficiency and Effectiveness

Efficiency measures of variables can be conceived as the ratio of output to the variables under study. With reference to inputs, these are obtained by calculating input-output ratios. Effectiveness can be measured by obtaining the contributions of each variable to the performance. The latter is done by correlation and regression analysis.

In the present study we use multiple correlation analysis for measuring the combined effect of a number of independent variables on the family welfare performance. Performance has been measured as the number of sterilisations plus one-third of the number of IUD insertions; this may be termed as modified equivalent sterilisations. In order to study the variation in number of vasectomies performed, that also has been considered as a performance variable. It may be remarked here that vasectomy can be done in almost all the PHCs in the State.

Performance data have been obtained from each of the PHC through a questionnaire. The information on the family welfare inputs especially the staff were also collected through the questionnaire. It has not been possible to scrutinise these and ensure their accuracy. The information on environmental variables is obtained for each block from the District Census Hand-Books.

Information on the expenditure incurred on the programme over the years can also be considered as an input generating the performance. However, in the present treatise the analysis of the effectiveness of the expenditure is discussed separately.

10.2 The Variables Considered

The following environmental variables and input variables of the programme are used to explain the variability in the acceptance of family welfare in the different PHCs.

Environmental variables:

1. Density per sq. mile.
2. Female literacy per 1000 female population.
3. Number of industrial workers per 1000 total workers.
4. Number of female workers to 1000 female population (female work participation rate).
5. Number of persons scheduled castes (SC) and scheduled tribes (ST) per 1000 population.

Input variables:

1. Number of Medical Officers per 1000 population.
2. Number of Block Extension Educators per 1000 population.
3. Number of Public Health Nurses (PHN) per 1000 population.
4. Number of Family Welfare Health Assistants (FWHA) per 1000 population
5. Number of Auxilliary Nurse-Midwives (ANM) per 1000 population.
6. Number of Voluntary Workers per 1000 population.

The 1971 census population is used for the calculations. Three schedules were canvassed for collection of information for the evaluation of family welfare programme in the PHC. Schedule A contains the details of the institution. The data for calculation of density have been obtained from this schedule. The data used for the second, third, fourth and fifth variables relating to the environment are collected from the 1971 Census Hand-Books. The data for the remaining variables are also from schedule A. For the figures on Medical and Paramedical staff, we have the staff in position for five years, viz., 1971-72 to 1975-76 and their annual averages have been taken. Only 136 observations are used, since in respect of six blocks some of the items of information were missing.

Output or family welfare performance is considered as the dependent variable. The information on the number of vasectomies, tubectomies, IUD acceptors and condom users are reported by the PHCs in schedule A. Of these, the number of condom users has been given only by a few PHCs. Hence this has not been considered. One way of measuring performance is by calculating the number of modified equivalent sterilisations on a cumulative basis till 1975-76. The dependent variable has been taken as the number of modified equivalent sterilisations per 1000 population (Y_i).

$$Y_i = \frac{S_i \times 1000}{P_i}$$

where S_i = total number of sterilisations + 1/3 of IUD insertions and P_i is the population of the i th block as per 1971 census. The analysis

has also been done with the rate of average annual vasectomies during 1971-75 per 10000 population. The efficiency of the PHC inputs can be measured by these two measures especially the latter. Most of the PHCs conduct vasectomies and some of the PHCs have facilities for IUD insertions; but the data obtained on IUD insertions are very meagre for a separate analysis. The cumulative total till 1975-76 is taken for each block.

10.3 Results

(a) *Values of the averages and variations:*—Table 10.1 shows the mean and the standard deviations of the dependent and independent variables.

TABLE 10.1—ARITHMETIC MEANS (AM) AND STANDARD DEVIATIONS (SD) OF THE VARIABLES UNDER STUDY

<i>Variables</i>	<i>A. M.</i>	<i>S. D.</i>	<i>The average number in a block* corrected to the nearest integer</i>
(1)	(2)	(3)	(4)
<i>Dependent variables:</i>			
1. The number of modified equivalent sterilisations per 1000 population on a cumulative basis till 1975-76.	7.653	7.2	765
2. The number of vasectomies per year during 1971-75 per 10000 population	4.792	4.9	48
<i>Independent variables</i>			
<i>(a) Environmental variables:</i>			
1. Density per sq. mile	1216	952.5	..
2. Female literacy per 1000 female population	544.672	114.8	27284
3. Industrial workers per 1000 total workers	160.743	110.0	..
4. Female work participation per 1000 female population	138.456	61.9	6948

	(1)	(2)	(3)	(4)
5. Scheduled caste and scheduled tribe population per 1000 total population		99.814	43.0	9581
<i>(b) Input variables:</i>				
1. Medical Officer per 1000 population		.0124	.0069	1
2. Block Extension Educator per 1000 population		.0091	.0041	1
3. Public Health Nurse per 1000 population		.0145	.0082	1
4. Family Welfare Health Assistants per 1000 population		.0455	.0133	4.5 (1000 4.55)
5. ANM per 1000 population		.0823	.0194	8
6. Voluntary Workers per 1000 population		.0706	.0262	7

*The average population of a block is assumed as 100,000.

It can be seen from the table that on the average, 7.7 equivalent sterilisations per 1000 population were performed in the PHCs. The number of vasectomies is 4.8 per 10,000 population. The average density per sq. mile as reported is near about the state average in 1971. The averages of the medical and paramedical staff vary from 0.009 to 3.03 per 1000 population.

The standard deviations are seen to be greater than the arithmetic mean in respect of the rates of vasectomies and is near about the average modified equivalent sterilisation which show that there are large variations in the performance among the PHCs. In respect of the density, industrial workers and PHN the standard deviation is greater than half of the arithmetic mean. The variations in these variables are also large.

(b) The extent of relationship:—The correlation of matrix shows that female literacy per 1000 female population is the only variable significantly related to the number of modified equivalent sterilisations.

Approximately significant relationships exist between the performance, and three other variables—industrial workers per 1000 total workers, PHN per 1000 population and the number of FWHAs per 1000 population. All other variables have only nominal relationships with the performance. The surprising feature of the matrix is that the number of ANMs is negatively correlated with performance.

Density per sq. mile is strongly correlated to female literacy industrial workers, female work participation and PHN. Female literacy has significant relationships with female work participation and medical and paramedical staff. The number of industrial workers per 1000 total workers has no strong relationship with any of the variables except density. Female work participation and the scheduled castes and tribes population are highly correlated. This is natural, since among the female workers a large percentage comes from the lower income group in which most of the scheduled castes and tribes fall. The number of SC/ST per 1000 population is not significantly related to any variable except female work participation. Medical and paramedical staff are highly correlated. The correlation matrix shows that except the four variables, female literacy, industrial workers, PHN and FWA, other variables can be discarded as unimportant while studying relation with performance. However, these four variables show a somewhat meaningful relationship with the other variables.

Considering the correlation with the number of vasectomies, it is seen that density shows significant correlation. The number of industrial workers shows a negative relation which is not significant. The number of PHN shows a positive relation followed by the number of ANM per 1000 population.

Thus it seems that while equivalent sterilisation shows relations with female literacy, industrial worker, PHN and the number of FWHAs vasectomy shows correlation with density, industrial workers (-ve correlation) PHN and ANM.

The coefficients of correlation show that improving the female literacy, percentage of industrial workers and the proportion of female supervisory staff like the PHN will be beneficial to the programme. Similarly, improving the proportion of PHN and ANMs will be beneficial to the vasectomy programme. Increase in density of population is also seen as beneficial but this will not be an acceptable proposition. It may be concluded that the services of the female supervisory staff like the PHN and the Lady Health Visitor have to be augmented for the betterment of the programme. This is the one step which can be taken by the authorities of the FWP. Steps at increase in female literacy and industrialisation are also to be taken as part of the socio-economic development of the State which will also improve the performance.

(c) *Multiple correlation.*—Considering the modified equivalent sterilisations as the dependent variable, the multiple correlation

coefficient is found to be 0.3566. It is seen that the 11 variables together explain only 13% of the variations in performance at the block/PHC level. The four variables, female literacy, industrial workers, PHN and FWHA explain 8% of the variations. If the number of vasectomies is considered, the variation explained is only 9%; the multiple correlation coefficient is only 0.3. It is thus seen that other variables should be found to increase the percentage variation explained. It is possible that incentives may play a large part in determining the performance. The period include the camp periods in various districts. These camps offered differing incentives. The effect of the organisational variables may also be quite large.

(d) *Regression equations.*—On fitting the regression lines of best fit, the following lines are obtained for number of modified equivalent sterilisation per 1000 population (Y_1) and number of vasectomies per 10,000 population (Y_2).

$$Y_1 = -4.5364 + \sum_{i=1}^{11} b_{1i} x_i$$

$$Y_2 = 1.3137 + \sum_{i=2}^{11} b_{2i} x_i$$

The values of the b_i s are given below :

i	b_{1i}	b_{2i}	Description of the independent variables
1	— .0008	..	Density of population per sq. mile
2	.0202	.0073	Female literacy per 1000 female population.
3	.0109	— .0006	Industrial workers per 1000 total workers.
4	.0101	— .0044	Female work participation per 1000 female population
5	.0099	— .0088	Number of scheduled castes and tribes per 1000 population.
6	121.5673	—10.7204	Medical Officers per 1000 population.
7	—234.2535	—34.9615	Block Extension Educators per 1000 population.
8	64.9037	17.7199	Public Health Nurses per 1000 population.
9	30.0088	31.7151	Family Welfare Health Assistants per 1000 population.
10	—55.7286	—30.9036	Auxiliary Nurse/Midwives per 1000 population.
11	24.5699	34.0020	Voluntary Workers per 1000 population.

If however, the four variables, female literacy per 1000 female population (x_1), the number of industrial workers per 1000 total workers (x_2), the number of PHN per 1000 population (x_3), and the number of FWHAs per 1000 population (x_4) alone are considered the regression coefficients will be as follows :—

i	b_{1i}	b_{2i}
1	0.0155	-0.0089
2	0.0075	-0.0009
3	-26.2657	-17.8213
4	19.6563	28.8278

The regression lines are :

$$Y_1 = -2.5189 + \sum_{i=1}^4 b_{1i} x_i$$

$$Y_2 = -0.9812 + \sum_{i=1}^4 b_{2i} x_i$$

The regression sum of squares shows a significant F-ratio with the error sum of squares in the case of the first line at 5% level of significance.

It is possible to project the values of the dependent variables using any set of values for the independent variables. This is not attempted here as the variation explained is not appreciable. The possibilities of adopting the equations for purposes of target-setting are also not explored because of the low variation explained. However, the lines can be used in case of necessity to fix targets of future performance, if sufficient knowledge of the values of the other variables are available for the future.

10.4 Input-output Ratios

Based on the statistics of inputs and outputs, the ratios of output per unit of input can be worked out. These ratios will show how far the inputs have been effective in obtaining the outputs. Two types of outputs are considered here—the number of modified equivalent sterilisations and the number of vasectomies. The input measures considered are the number of Medical Officers/Block Extension Educators/Public Health Nurses/Family Welfare Health Assistants/Auxiliary Nurse/Midwives and Voluntary Workers. The ratios are shown below (Table 10.2) corrected to the nearest integer.

TABLE 10.2—INPUT-OUTPUT RATIOS

<i>Sl. No.</i>	<i>Category</i>	<i>Number of modified equivalent sterilisations</i>	<i>Number of vasectomies</i>
1.	Medical Officer/Block Extension Educator/PHN	765	48
2.	Family Welfare Health Assistant	169	11
3.	Auxiliary Nurse/Midwife	96	6
4.	Voluntary Worker	109	7

As the information collected shows only the total performance without assigning the role of each category of staff, the ratios show only the average performance by a worker irrespective of the part played by him. It is seen that on an average there are 4-5 FWHAs, 8 ANMs and 7 voluntary workers in a block, in position as per reported data. While comparing the input-output ratio by category of input, this fact has to be taken into consideration. As the average number of Medical officers, BEEs and PHNs reported in the schedules are more or less equal, the input-output ratios are shown for these categories as clubbed into one.

The ratios show that in a block, the average cumulative performance is 765 equivalent sterilisations. This is very low as the Primary Health Centres were started quite some years ago. The average number of vasectomies per year during 1971-75 per PHC/block is only 48.

As has been discussed elsewhere, the effectiveness of the inputs have to be increased by augmenting some of the categories of staff; this action may increase the input-output ratio and the overall performance.

10.5.0 Expenditure on the Programme

The expenditure on FWP in Kerala has been increasing over the years. The aggregate expenditure comprises of administration, publicity and propaganda, training of staff, grants, transport, compensation, etc. In 1958-59, the expenditure was just less than two lakhs. By the time of reorganisation in 1964-65, the expenditure rose by more than 18 times to 36.8 lakhs. Since then, the annual expenditure has been steadily increasing except for a fall in total expenditure during 1973-74. By 1975-76, the total has reached 396 lakhs.

Appendix E, Table I gives the break-up of annual expenditure under ten broad headings. In this table, "Administration" includes the expenditure on the heads of account, administration, secretariat

cell, technical supervision, direction and "TA to others". The column "FP Centre" comprises of the expenditure, on Rural FP Centre, Urban Centre including expenditure on the introduction and administration of the Intra-uterine Device (IUD). The expenditure on training of ANM, training of other workers, research, statistics and DRC is included under the column "Training and Research", while "Other Services" include expenditure on Mobile Surgical Unit, Reorganisation, Offset Press and Medical College.

An analysis of aggregate expenditure of Rs. 2566.9 lakhs during the 18 years (1958-59 to 1975-76) shows that the major portion (67.6%) of the expenditure has been incurred on services rendered through Family Welfare Centres (Rural and Urban) and IUD unit. The expenditure on general administration is 4% of total which is more or less equal to that on publicity and propaganda. About 9% of expenditure is on construction.

10.5.1 Cost per Equivalent Sterilisation

Appendix E, Table 2 gives the number of equivalent sterilisations and the cost per equivalent sterilisation over the years. The number of equivalent sterilisation is obtained as the total number of sterilisations plus one-third of the number of IUD insertions and one-eighteenth of the number of users of conventional contraceptives. The cost-figures show an increasing trend up to 1970-71. Later, with increase in the number of equivalent sterilisations, the unit cost decreases in the various years. The highest cost per equivalent sterilisation is nearly Rs. 449, in 1973-74 during which year, the number of vasectomies performed was very low. In 1975-76, the final year under review, the cost per equivalent sterilisation is nearly Rs. 237.

10 5.2 Cost per Birth Averted

Comparing the expenditure of each year with the births that would be averted by the performance of that year, it is seen that per birth averted the cost is Rs. 65.45 for 1966-67 and Rs. 179.93 for 1973-74. All the other unit costs fall in between. The average cost over the years is Rs. 109.16. It may be noted here that the births averted extend to a period of 23 years beginning with the year of conducting sterilisation, 11 years for IUD and 3 years for C. C. If the number of births averted during each year is divided by the expenditure in that year, the cost works out to an average of Rs. 238 with the maximum of Rs. 297.22 and a minimum of Rs. 166.17 (See Appendix E, Table 3). If the expenditure directly involved on the implementation of the programme is uniform over the years, the cost per birth averted calculated as above will be equal to that obtained earlier. But it is clear that this equality is not attained, as expenditure on some items like construction, etc., vary over the years and that its effect on the performance is not direct.

10.6 Conclusions

The study indicates that the female education has the most significant role in achieving a high level of acceptance of family welfare. We can say that the environment plays an important part in raising the level of acceptance, as the effects of female literacy, female work participation and industrial workers are much more than those of others. Among input variables in family welfare, PHN and FWHA have major roles in improving performance.

It follows that the information collected should be thoroughly scrutinised and checked before undertaking such sophisticated analysis. Variables like cost and incentives and the organisational variables should also be brought into the analysis in order to have a large part of the variation explained.

The regression equations can be used to graduate the efficiency of specific blocks/PHCs and also to set targets of performance if knowledge of the future variation in independent variables is available.

The average cost per unit of equivalent sterilisation over the years is Rs. 263.09 while the cost per birth averted is Rs. 109.16 if the effect of the total performance overall the years is considered.

CHAPTER XI

HOW TO IMPROVE THE PROGRAMME

11.0 Introduction

A broad picture of the historical, cultural and demographic development of the State, the organisational and management aspects of the FWP in the State and evaluation of the various components of the programme—like levels and changes in KAP, changing pattern of the characteristics of acceptors, achievements of the programme and its demographic impact, have been presented in the previous chapters. In the light of these, and the suggestions received from various quarters, the committee, after careful consideration, makes the following recommendations for improving the programme. The suggestions of a cross section of the public received at the public sittings held by the committee at Kozhikode, Trichur and Kottayam and the suggestions received from the Medical Officers, FWHAs/ANMs through the schedules distributed to them, are given as Appendices XIV and XV.

11.1 Recommendations of the Committee

1. Positive steps should be taken to improve the physical and clinical facilities of sub-centres and to provide office accommodation for FWHAs (Chapter V).

2. The unified control of all FW staff in the district should be vested with the DFWMOs.

3. A separate FW ward with a FW Medical Officer may be set up in all district/taluk hospitals, whose main duty will be to attend to follow-up care and complication cases.

4. The allotment of vehicles and funds for petrol to PHCs should be rationalised, based on the area to be covered and the distance between PHC and sub-centres.

5. The Medical Officer of PHC should be given basic managerial training.

6. Panchayat ward level committees consisting of officials and non-officials should be formed, for doing propaganda about FWP, by house visits and conduct of study classes. To co-ordinate the functioning of the ward level committees, a committee at the panchayat level may also be formed.

7. An association of satisfied acceptors may be formed in each panchayat to discuss and solve their own problems and to popularise the programme among non-acceptors.

8. Seminars and study classes to be organised in slums and rural areas with active involvement of trade union leaders, voluntary agencies like women's organisations, libraries, sports clubs and various departments like education, health and development.

9. More teaching aids and facilities for extra-curricular activities to be provided for the two training centres.

10. Documentary pictures of FW must be shown to the public, by the Mass Education and Information Wing of the SFWB, as part of a new communication strategy to bridge the gap between knowledge and practice (Chapter VII).

11. Population education should be intensified by including appropriate lessons in text-books of all classes in schools and colleges. Questions from such lessons should be made compulsory. Suitable pictorial representation of the effect of population explosion and the benefits of small family should be exhibited in all schools.

12. Wide publicity should be given about the existing facilities for dealing with complications and the compensation available; besides priority should be given for care and free treatment of such cases.

13. The active involvement of religious and political leaders should be ensured.

14. The eligible couple register should be made up-to-date and realistic targets fixed by considering the number already sterilised and the extent of resistance prevalent in the area, where special efforts are required to achieve the targets. Pamphlets in local languages (Malayalam/Tamil/Kannada) explaining the stand of group leaders in the matter of family limitation should be distributed particularly to resistant groups.

15. The roll of voluntary organisations should be revitalised by extending financial assistance for expanding their scope to include FW activities.

16. A family "health card" to be given to each acceptor of sterilisation/IUD which should enable him to get preference in the matter of health care for himself and his family.

17. Facilities for sterilisation (both male and female) should be introduced in all PHCs on a phased programme.

18. Recanalisation facilities should be provided in all major hospitals and the fact must be given wide publicity.

19. Mass education should be directed towards counter-acting rumours, after identifying factors responsible for the spread of such rumours.

20. The performance of field workers should be judged not only by the number of acceptors but on the basis of overall achievement in family welfare activities, including immunisation, MCH, etc.

21. Periodical assessment of the after-effects of sterilisation as well as the impact of the programme should be done by a State-wide survey.

22. A study on the cost of rearing children may be conducted.

23. Registration of marriages should be made compulsory by legislation.

24. The services of female supervisory staff like PHN and LHV may be augmented for the betterment of the programme (Chapter X).

25. Measures to increase female literacy and industrialisation may be intensified, as these would indirectly improve the performance of the programme (Chapter X).

Appendix I (a)

GOVERNMENT OF KERALA

Abstract—Family Planning—Evaluation Studies of Family Planning Programme—
Committee constituted.

HEALTH (FP) DEPARTMENT

G.O.(Rt.) 3838/75/HD. Dated, Trivandrum, 20.12.1975.

- Read: 1. Letter dated 9.8.1975 from P. Unnikrishna Pillai, M.L.A.
2. Letter No. F.P. A8.109225/75 dated 13.9.75 from the Director of Health Services.
3. Letter No. Ad: FI(1)/70 dated 9.12.75 from the Registrar, University of Kerala.

ORDER

As decided at the discussion held on 21.11.75 by the Secretary (Health) with the Director of Health Services, Director, Bureau of Economics and Statistics, Dr. R. Krishna Pillai and Prof. P.K.B. Nair of the University of Kerala and others Government order the constitution of a committee which will undertake the evaluation study of the Family Planning Programme in the State from its inception till the end of 1974. The committee will consist of the following members:

1. Secretary (Health) Chairman.
2. Director of Health Services.
3. Director, Bureau of Economics and Statistics.
4. Dr. R. Krishna Pillai, University of Kerala.
5. Prof. P.K.B. Nair, University of Kerala.
6. Sri P.S. Gopinathan Nair, Assistant Director, Bureau of Economics and Statistics, Member-Secretary.

They also order the constitution of a sub-committee consisting of—

1. Dr. V.M. Koruthu, Deputy Director of Health Services.
2. Prof. Krishna Pillai, University of Kerala and
3. Sri P.S. Gopinathan Nair, Assistant Director, Bureau of Economics and Statistics for drawing up a questionnaire for the evaluation study.

(By order of the Governor)

I. GOPALAN,
Deputy Secretary.

Appendix I (b)

GOVERNMENT OF KERALA

Abstract—Family Planning—Evaluation studies of F. P. Programme—
Committee—Nomination of additional member—Sanctioned.

HEALTH (FP) DEPARTMENT

G.O. (Rt.) 2335/76/HD. Dated, Trivandrum, 22.6.1976.

Read: G.O. (Rt.) 3838/75/HD., dated 20.12.1975.

ORDER

Government order that Dr. R. S. Kurup, Deputy Director, Bureau of Economics and Statistics will be co-opted as an additional member of the Family Planning Evaluation Committee constituted in the Government order read above.

(By order of the Governor)

I. GOPALAN,

Deputy Secretary.

Appendix I (c)

GOVERNMENT OF KERALA

Abstract—Family Planning—Evaluation studies of Family Planning Programme—
Committee—Nomination of additional member—Sanctioned—Orders
issued.

HEALTH (FP) DEPARTMENT

G.O. (Rt.) 3648/76/HD. Dated, Trivandrum, 13.10.1976.

Read: 1. G.O. (Rt.) 3838/75/HD., dated 20.12.1975.
2. G.O. (Rt.) 2335/76/HD., dated 22.6.1976.

ORDER

Government order that Dr. A. B. Saha, Regional Director, Regional Office, Government of India, Trivandrum will be co-opted as an additional member of the Family Planning Evaluation Committee constituted as per the Government order read as 1st paper above.

(By order of the Governor)

I. GOPALAN,

Deputy Secretary.

Appendix I (d)

GOVERNMENT OF KERALA

Abstract—Family Planning Programme—Committee for Evaluation of Family Planning Programme—Supporting staff for Sub-Committee— Creation of posts—Orders issued.

HEALTH (FP) DEPARTMENT

G.O. (Rt.) 691/77/HD. Dated, Trivandrum, 23.2.1977

- Read:
1. G.O. (Rt.) 3838/75/HD., dated 20.12.1975.
 2. Letter No. DR. 23926/75/ESD., dated 6.11.1976 from Sri P.S. Gopinathan Nair, Member-Secretary, Committee for Evaluation of F.P. Programme.
 3. Letter No. DR. 29171/76/ESD., dated 27.12.1976 from the Director, Bureau of Economics and Statistics.

ORDER

As per the Government order read above Government have constituted a committee for Evaluation of Family Planning Programme. As per the decision of the Committee the Member-Secretary has forwarded a proposal for creation of the following posts for a period of 4 months.

1. Research Officer	— 1 (Rs. 510.995)
2. Research Assistant	— 1 (Rs. 405.660)
3. L.D. Compiler	— 3 (Rs. 230.385)
4. L.D. Typist	— 1 (Rs. 230.385)

Government have examined the proposal in detail and are pleased to accord sanction for the creation of the above posts for a period of 4 months from 1.4.1977. The post of Typist will be filled up two months after the other posts are filled up. The above posts will be in addition to the respective cadres in the Directorate of Bureau of Economics and Statistics. The expenditure on this account will be met from the head of account 281 F.P. (i) (6).

The Director, Bureau of Economics and Statistics will take further action in the matter.

(By order of the Governor)

I. GOPALAN,

Deputy Secretary.

Appendix I (e)

GOVERNMENT OF KERALA

Abstract—Family Planning Programme—Committee for evaluation of Family Planning Programme—Supporting staff for the Sub-Committee—Creation of posts—Date of effect—Modified—Orders issued.

HEALTH (FP) DEPARTMENT

G.O.(Rt.) 1662/77/HD. Dated, Trivandrum, 22.4.1977.

- Read:**
1. G.O.(Rt.) 691/77/HD., dated 23.2.1977.
 2. Letter No. DR. 23936/75/ESD., dated 20.4.1977 from the Member-Secretary, Committee for Evaluation of Family Planning Programme.

ORDER

As per the Government order read above sanction was accorded for creation of the following posts required as supporting staff for the Sub-Committee for Evaluation of Family Planning Programme, for a period of four months from 1.4.1977.

- | | |
|-----------------------|-----|
| 1. Research Officer | — 1 |
| 2. Research Assistant | — 1 |
| 3. L.D. Compiler | — 3 |
| 4. L.D. Typist | — 1 |

But as the tabulation work could not be completed before 1.4.1977 the staff could not be posted from the above date. In the circumstances sanction is accorded for the creation of the above posts for a period of four months from the date of filling up of the posts.

The Government order read above will stand modified to this effect.

(By order of the Governor)

I. GOPALAN,

Deputy Secretary.

Appendix II

STATE FAMILY PLANNING PROGRAMME EVALUATION

Schedule A—Institution

Schedule A—Institution			
I. Identification particulars :			
1. Name of Institution			
2. District			
3. Block/Municipality/Corporation			
II. General particulars :			
1. Year of establishment			
2. Year from which Family Planning services are rendered			
3. Number of sub-centres (including Family Welfare Planning Centres)			
4. Types of Family Planning services rendered	Vasectomy/Tubectomy/IUD/CC/Oral pills/Others (specify)		
5. (a) Area (in sq. km.) served by the institution			
(b) Population (1971 census) covered by the institution	Male	Female	Total
Hindus			
Christians			
Muslims			
Others			
Total			
6. Number of eligible couples at the year of starting (specify the year) the Family Planning activities and as on 31-3-1975	Year of starting	31-3-1975	
Hindus			
Christians			
Muslims			
Others			
Total			

III. Details of staff for Family Planning:

1. Number of each category of staff (as on the last day of each year)

Category of staff	1971-72		1972-73		1973-74		1974-75		1975-76	
	Sanctioned	In position	Sanctioned	In position	Sanctioned	In position	Sanctioned	In position	Sanctioned	In position
M.O.										
B.E.E.										
P.H.N./H.V.										
S.K.C.A.										
Computer										
F.P.H.A.										
A.N.M.										
Voluntary worker										
Others (specify)										

2. Trained staff

Category of staff	Total number as on 31-3-1975	Number trained	Number untrained
M.O.			
B.E.E.			
P.H.N./H.V.			
S.K.C.A.			
Computer			
F.P.H.A.			
A.N.M.			
Voluntary worker			
Others (specify)			

3. (a) Is there any other staff of the centre engaged in family planning activities } Write Yes or No (as the case may be)
- (b) If Yes, category, number and how often?

IV. Facilities available as on 31-3-1975.

	Adequate	Inadequate	Remarks
1. <i>Accommodation</i>			
(a) P.H.C. Building			
(b) Sub-centres			
(c) Family Welfare Centres			
2. (a) Number of vehicles available			
(b) Exclusively for family planning work			
(c) Partly for family planning work			
3. Clinical facilities			

V. Annual expenditure incurred on family planning over the years.

Year	Expenditure on			Total
	Pay and allowances	Compensation (incentive)	Others	
1970-71				
1971-72				
1972-73				
1973-74				
1974-75				

VIII. Summary of efforts for family planning for the past one year, i. e. 1974-75.

1. Number of house visits made by:—			
(a) Medical staff	—		
(b) Para-medical staff	..		
2. Number of personal contacts by:—			
(a) Medical staff	..		
(b) Para-medical staff	..		
3. (a) Group meetings held	..	Number	Number of persons attended
	..		
	..		
	..		
(b) Film shows conducted	..		
(c) Other mass publicity media used (Kathaprasangams, Dramas, etc.	..		
4. Number of pamphlets distributed..			
5. Special programmes like		Number	Number of Sterilisation
			Number of I. U. D.
Mass camps	..		
Mini camps	..		
Fortnights	..		
6. Number of Block level Family Planning Advisory Committee meetings held in the year	..		
Name of Medical Officer	..		
Signature	..		
Date	..		

Appendix III**STATE FAMILY PLANNING PROGRAMME EVALUATION****Schedule B—Medical Officers****I. Identification particulars**

1. Name of medical officer :
2. Age :
3. Qualifications :
4. Date of entry into service :
5. How long have you been working in the Family Planning Programme? :
6. Date of joining the present institution :
7. (a) Are you trained in Family Planning? : Yes/No
(b) If yes, furnish details of training and when trained (year) :

II. Family Planning work done in December, 1975

1. How many times have you visited the field? :
2. Number of acceptors contacted :
3. No. of persons contacted for Family Planning advice (other than acceptors) :
4. (a) Number of sub-centres visited :
(b) Number of such visits :

III. Complication cases

1. Are you getting complication cases from the area? :
2. Do you get enough time to attend promptly to such cases? :
3. Do you think that the occurrence of complications affects the programme in the area? :
4. Do you think that your approach towards complication cases and other cases helps to attract more acceptors? :

IV. Do you have difficulties in:

1. Devoting adequate time to family planning activities in addition to your other duties : Yes/No
2. Making field visits : Yes/No
3. Supervising the work of the field staff : Yes/No
4. Getting supplies in time : Yes/No
5. Keeping registers and records : Yes/No
6. Convincing the laymen about family planning : Yes/No
7. Others (specify)

V. What are your suggestions for improvement of the programme in respect of the following:—

1. (a) Public awareness :
- (b) Motivation for acceptance of—
 - (i) Terminal method :
 - (ii) Spacing :
 - (iii) Medical termination of pregnancy :
- (c) Extension work :
- (d) Overcoming rumours :
- (e) Supply of materials :
- (f) Family Planning services :

VI. Do you have the following problems in your area

1. Low level of literacy :
2. General backwardness of the area (like lack of transport facilities etc.) :
3. Opposition from local religious/cultural/political groups :
4. Non-co-operation of local leaders/political parties :
5. Fear of after effects :
6. Rumours arising from dis-satisfied acceptors :
7. Inconvenient location of the Primary Health Centres :
8. Lack of commitment on the part of Family Planning staff :
9. Other Problems if any :

VII- General Remarks

- 1. Do you think that there is anything special about your area for furthering Family Planning activities :
- 2. What are your concrete suggestions for improvement of the Family Planning Programme :
- 3. If you have option to choose regular Medical service or Family Planning service, which will you choose. :

Name of Medical Officer:

Signature:

Date:

Appendix IV

സംസ്ഥാന കുടുംബാസൂത്രണ പരിപാടിയെക്കുറിച്ചുള്ള
 വിലയിരുത്തൽ
 (പട്ടിക സി)

- I. (എ) പേര്
 (ബി) വയസ്സ്
 (സി) തൊഴിൽ
- II. (1) കുടുംബാസൂത്രണപരിപാടിക്കു നിങ്ങൾ അനുകൂലമാണോ? അതെ/അല്ല
- (2) നിങ്ങളുടെ അടുത്ത കുടുംബാസൂത്രണ സേവനങ്ങൾ ഏർപ്പെടുത്തിയിട്ടുള്ള സ്ഥാപനങ്ങൾ ഏതെല്ലാമെന്ന് അറിയാമോ?
 - 1.
 - 2.
 - 3.
 - 4.
- (3) മേൽപറഞ്ഞ സ്ഥാപനങ്ങളിൽ നിന്നു ലഭിക്കുന്ന സേവനങ്ങൾ ഏതെല്ലാം?—
 - (എ) ഉപദേശങ്ങൾ
 - (ബി) നിരോധ തുടങ്ങിയ ഗർഭനിരോധനോപകരണങ്ങളുടെ വിതരണം

(സി) സേവിക്കാനുള്ള ഗുളികയുടെ വിതരണം.

(ഡി) ലൂപ്പ് നിക്ഷേപം.

(ഇ) വാസകടമി

(എഫ്) ട്യൂബകടമി/പി. പി. എസ്/മിനിലാപ്പ്

(ജി) മാസമുറക്രമീകരണം. (MR)

(എച്ച്) നിയമാധിഷ്ഠിത-ഗർഭഭരണഭംഗം

(ഐ) റീകാനലൈസേഷൻ ഓപ്പറേഷൻ

- (4) കഴിഞ്ഞ ആറുമാസത്തിനിടയ്ക്ക് നിങ്ങളുടെ അടുത്തുള്ള ഏതെല്ലാം കുടുംബാസൂത്രണ കേന്ദ്രങ്ങൾ നിങ്ങൾ സന്ദർശിച്ചിട്ടുണ്ട്? 1.
2.
3.
4.

III. (1) നിങ്ങൾ സ്മലത്തെ കുടുംബാസൂത്രണ പ്രവർത്തനങ്ങളിൽ പങ്കുകൊള്ളാറുണ്ടോ?

ഉണ്ട്/ഇല്ല

(2) ഉണ്ടെങ്കിൽ ഏതുതരത്തിലാണ്?

(എ) മറ്റുള്ളവരെ പ്രേരിപ്പിക്കുക.

(ബി) കുടുംബാസൂത്രണ കൗൺസിലിന് കുടുംബാസൂത്രണ പ്രവർത്തകർക്കു പ്രോത്സാഹനം നൽകുക.

(സി) ഈ പരിപാടിയുടെ വിജയത്തിനു വേണ്ടി വ്യക്തികളുടെയും സ്മാപനങ്ങളുടെയും സഹകരണം സമ്പാദിക്കുക.

(ഡി) കുടുംബാസൂത്രണ മാർഗ്ഗം സ്വീകരിക്കുന്നവർക്കു സാമ്പത്തിക സഹായം ഉൾപ്പെടെയുള്ള ആനുകൂല്യങ്ങൾ നൽകുക.

IV. (1) നിങ്ങളുടെ അടുത്തുള്ള സ്മാപനങ്ങളിലെ കുടുംബാസൂത്രണ സേവനസൗകര്യങ്ങളിൽ നിങ്ങൾ തൃപ്തനാണോ?

ആണ്/അല്ല

(2) അല്ലെങ്കിൽ ഏതു തരത്തിൽ:

(എ) ആവശ്യത്തിനുള്ള ജീവനക്കാരില്ലാതിരിക്കുക

(ബി) ജീവനക്കാരുടെ പെരുമാറ്റം

(സി) ജനങ്ങളുടെ ഇടയിൽ പ്രവർത്തിക്കുന്നവരുടെ കഴിവുകുറവ്

- (ഡി) മരുന്നിന്റെ അഭാവം
- (ഇ) ഉപകരണങ്ങളുടെ കുറവ്
- (എഫ്) മറ്റൊരന്തകിലും കാരണങ്ങൾ ഉണ്ടെങ്കിൽ അവ

(3) മേൽപറഞ്ഞ പോരായ്മകൾ പരിഹരിക്കുന്നതിനുള്ള നിർദ്ദേശങ്ങൾ ഏവ?

V. (1) ദമ്പതികൾ സ്വമേധയാ കൂടുംബാസൂത്രണമാർഗ്ഗങ്ങൾ സ്വീകരിക്കുകയാണെന്ന് നിങ്ങൾ കരുതുന്നുണ്ടോ?

ഉണ്ട്/ഇല്ല

(2) കൂടുംബാസൂത്രണ മാർഗ്ഗങ്ങൾ അംഗീകരിക്കുവാൻ വിമുഖതയുള്ള ദമ്പതികൾ നിങ്ങളുടെ സ്ഥലത്തുള്ളതായി അറിയാമോ?

അറിയാം/ഇല്ല

(3) ഉണ്ടെങ്കിൽ:-

(എ) ഏതു കൊണ്ട് അവർ അപ്രകാരം വിമുഖത കാണുന്നു? നിങ്ങളുടെ അഭിപ്രായം എന്താണ്?

(ബി) അവരെ കൊണ്ട് കൂടുംബാസൂത്രണമാർഗ്ഗങ്ങൾ അംഗീകരിപ്പിക്കുവാൻ ഏതു നടപടി സ്വീകരിക്കണമെന്നാണ് നിങ്ങൾ നിർദ്ദേശിക്കുന്നത്.

VI. (1) കൂടുംബാസൂത്രണമാർഗ്ഗം അംഗീകരിച്ചതുകൊണ്ടു മാത്രം ആർക്കെങ്കിലും തകരാറു സംഭവിച്ചതായി നിങ്ങളുടെ ശ്രദ്ധയിൽപ്പെട്ടിട്ടുണ്ടോ?

ഉണ്ട്/ഇല്ല

(2) ഉണ്ടെങ്കിൽ:-

(എ) ഏതു തരത്തിലുള്ള തകരാറാണ് സംഭവിച്ചത്?

(ബി) ആ പ്രത്യേക മാർഗ്ഗം അംഗീകരിച്ചതുകൊണ്ടാണ് തകരാറു സംഭവിച്ചതെന്ന് നിങ്ങൾ വിശ്വസിക്കുന്നുണ്ടോ?

ഉണ്ട്/ഇല്ല

(സി) ഇല്ലെങ്കിൽ ആ വിവരം തകരാറു ബാധിച്ച വ്യക്തിയെ പറഞ്ഞു ബോധ്യപ്പെടുത്തിയിട്ടുണ്ടോ?

ഉണ്ട്/ഇല്ല

(ഡി) തകരാറു ബാധിച്ച വ്യക്തിക്ക് ആരോഗ്യകേന്ദ്രത്തിൽ അർഹമായ പരിചരണം ലഭിച്ചിരുന്നു എന്ന് നിങ്ങൾ കരുതുന്നുണ്ടോ?

ഉണ്ട്/ഇല്ല

- VII. (1) കൂട്ടുംബാസ്യത്രണമാർഗ്ഗം അംഗീകരിച്ചവരെക്കുറിച്ച് അനന്തര അന്വേഷണങ്ങളും പരിചരണങ്ങളും നടത്തുന്നതിന് ഇന്നുള്ള ഏർപ്പാടുകൾ തൃപ്തികരമാണോ? അതെ/അല്ല
- (2) ഇക്കാര്യത്തിൽ ആർക്കെങ്കിലും പരാതിയുള്ളതായി നിങ്ങളുടെ ശ്രദ്ധയിൽ പെട്ടിട്ടുണ്ടോ? ഉണ്ട്/ഇല്ല
- (3) ഉണ്ടെങ്കിൽ:-
- (എ) നിങ്ങൾ എന്തെങ്കിലും നടപടി സ്വീകരിച്ചിട്ടുണ്ടോ? ഉണ്ട്/ഇല്ല
- (ബി) നടപടി സ്വീകരിച്ചിരുന്നെങ്കിൽ ഏതു തരത്തിലായിരുന്നു
- (1) ആ വ്യക്തിയെ ആരോഗ്യ കേന്ദ്രത്തിലെത്തിച്ചു
 - (2) അധികാരികളുടെ ശ്രദ്ധയിൽ പെടുത്തി
 - (3) മറ്റൊരുകെങ്കിലും ചെയ്തിട്ടുണ്ടെങ്കിൽ അത്
- VIII. കൂട്ടുംബാസ്യത്രണമാർഗ്ഗങ്ങൾ സ്വീകരിച്ചതുമൂലം സംഭവിച്ചതെന്നു പറയുന്ന തകരാറുകൾ ഈ പരിപാടിയെക്കുറിച്ച് പൊതുജനങ്ങളിൽ താല്പര്യക്കുറവ് ഉണ്ടാക്കിയിട്ടുണ്ടെന്ന് നിങ്ങൾ കരുതുന്നുണ്ടോ? ഉണ്ട്/ഇല്ല
- IX. (1) നിങ്ങളുടെ സ്ഥലത്ത് ഏതെങ്കിലും വ്യക്തിയോ വിഭാഗമോ കൂട്ടുംബാസ്യത്രണപരിപാടിയെക്കുറിച്ച് എതിർപ്രചാരണം നടത്തുന്നതായി നിങ്ങളുടെ ശ്രദ്ധയിൽ പെട്ടിട്ടുണ്ടോ? ഉണ്ട്/ഇല്ല
- (2) ഉണ്ടെങ്കിൽ അവരെ അതിനു പ്രേരിപ്പിക്കുന്ന വസ്തുതകൾ എന്താണ്?
- (3) അപ്രകാരമുള്ള കുപ്രചരണങ്ങളെ നേരിടാൻ നിങ്ങൾ എന്തെങ്കിലും നടപടി സ്വീകരിച്ചിട്ടുണ്ടോ? ഉണ്ട്/ഇല്ല
- X. (1) കൂട്ടുംബാസ്യത്രണ പരിപാടി കൂടുതൽ കാര്യക്ഷമമാക്കുവാൻ നിങ്ങളുടെ നിർദ്ദേശങ്ങൾ. 1.
2.
3.
4.
- (2) ഈ പരിപാടിയുടെ വിജയത്തിന് നിങ്ങളുടെ സേവനങ്ങൾ എങ്ങനെ കൂടുതൽ കാര്യക്ഷമമാക്കുവാൻ കഴിയും?

- XI. (എ) നിങ്ങൾ കുടുംബാസൂത്രണ മാർഗ്ഗം സ്വീകരിച്ചിട്ടുണ്ടോ? ഉണ്ട്/ഇല്ല
 (ബി) ഉണ്ടെങ്കിൽ ഏതു മാർഗ്ഗം?
 (സി) ഇല്ലെങ്കിൽ അതിനുള്ള കാരണം
- XII. (1) നിങ്ങൾക്ക് എത്ര കുട്ടികളുണ്ട്?
 (2) ഏറ്റവും ഇളയകുട്ടിയുടെ പ്രായം എന്താണ്?

സംഗ്രഹം: ഒപ്പ്

തീയതി: പേര്

പൂർണ്ണമായ മേൽവിലാസം

Appendix V

STATE FAMILY PLANNING PROGRAMME EVALUATION

Schedule D—F.P.H.A/A.N.M.

I. Identification particulars

- 1. Name and designation : _____
- 2. Age : _____
- 3. Qualification : _____
- 4. Date of entry into service : _____
- 5. Date since working in the Family Planning Programme : _____
- 6. (a) Are you trained in Family Planning Programme? _____
- (b) If 'Yes' furnish details of training and when (year) trained _____

II. Details regarding your work

1. How many days in a month do you :
actually attend to field work?
2. How many hours of each day, are you :
engaged in field work?
3. What are the duties that you actually :
perform?
4. Are you keeping the base line data :
up-to-date?
5. Are you conducting regular follow-up :
services?
6. Do you come across complications due :
to Family Planning Methods?
7. If 'Yes', do you advise/arrange for their :
treatment?
8. Do you think there is proper co-opera- :
tion from accepters in such complications?
9. Do you think that your motivational :
efforts are effective in your area?
10. In the execution of your official duties, :
have you any problems and if so in-
dicate the nature of the problems?
11. (a) Do you face any opposition or non-co- :
operation from the local people?
- (b) If so, from which group of people? :

III. Your relations with your superiors and the extent
of team work

1. Are you getting necessary guidance from
your superiors
 - (a) in planning your work :
 - (b) in solving your difficulties :
2. Do you think there is enough co-ordina- :
tion among different wings of the P.H.C.
and among the workers in the P.H.C.
3. Are you satisfied with the group work? :
4. (a) In your opinion is the programme :
Planning at the P.H.C. level sound
- (b) If not what are the defects? :

5. (a) Do you attend staff meetings regularly? :
- (b) Are such meetings well conducted? :
- (c) Do you place your problems in such staff meetings? :
- (d) Are they given weight to, and considered properly and solutions given? :
- (e) Are you free to give your views at such meetings? :
- (f) Do you feel a sense of participation in the programme? :

IV. General

1. What, according to you are the obstacles in the way of spreading the F.P. Programmes? :
2. What are your suggestions to remove such obstacles? :
3. List out your concrete suggestions for furtherance of the programme? :
4. In your personal opinion is family planning necessary? : Yes/No

Signature:

Name:

Designation:

Date:

Appendix VI**NAME OF PERSONS WHO GAVE EVIDENCE AT THE
PUBLIC SITTING****Kozhikode on 21-1-1977**

1. District Collector, Kozhikode.
2. Kishori, J. Kinger.
3. Sharmila Nagpal.
4. A.P. Balakrishnan Nair.
5. Dr. K. Shanmughan Nair, Medical Officer, P.H. Centre, Thalakulathur.
6. P.K. Abdulla Kutty, President, Lions Club of Calicut.
7. P. Mohammed Koya, Corporation Commissioner-in-charge, Calicut.
8. Dr. T. K. Kunhimon, Corporation Health Officer.
9. O. K. Velayudhan Nair.
10. Dr. C. Suthan, Medical Officer, Govt. Rural Dispensary, Kakkur.
11. P. Gurudevan, P.H.A., Chelevanur, P.H.C., Thalaku'athur.
12. P.S. Sreeranganathan, B.E.E., P.H.C., Narikkuni.
13. K. Manikantan Nair, Dy. M.E.
14. C.K. Radhakrishnan, J.S. Collectorate.
15. C. M. Lalitha, Dy. M.E.I.O., Dt. F.P. Bureau, Kozhikode.
16. K. Kanakamma, D.P.H.N., Dt. F.P. Bureau, Kozhikode.
17. N.K. Krishnan Nambiar.
18. T.V. Velayudhan, F.P.H.A., Perambra P.H.C.
19. V.P. Velayudhan, U.D.C., D.F.P.B., Calicut.
20. P. Balakrishnan, U.D.C., D.F.P.B., Calicut.
21. K. Sivan Pillai.
22. Mr. Anandan Srinivasan, Inner Wheel Club of Calicut.
23. Mrs. Prema Rajaram, President, Inner Wheel Club of Calicut.
24. Dr. V.M. Abdul Rahim, P.H.C.
25. B. Sankaran Nair, M.E.I.O.
26. Dr. B. Satya Narayanan, A.D.M.O.H.
27. Dr. (Mrs.) P.K. Rabia, D.M.O.H.
28. Dr. T.K. Dhas, Dy. D.H.S.
29. Dr. A.B. Saha, R.D., F.P., Government of India, Trivandrum-1.
30. T.P. Moossa, P.O. Iringath.
31. V. K. Abdulla, Field Publicity.
32. P. Gopinathan Menon, F.P. Statistical Assistant.
33. T.K. Narayanan, Panchayat President.
34. N. Moosakunju, Asst. Information Officer.
35. P.N.C. Balakrishnan Nair, Secretary, B.S.S.

Trichur on 22-1-1977

1. Sri P.V.S. Wariar, Dist. Collector, Trichur.
2. ,, C.K. Mohandas, Asst. Development Commissioner.
3. Dr. K. Venugopal, Dist. Medical Officer of Health.
4. ,, Lilly Thomas, Dt. Family Planning Medical Officer.
5. ,, K.V. Sarvanandan, Asst. Dist. Medical Officer of Health.
6. Personal Asst. to the Dist. Educational Officer, Dist. F.P. Advisory Committee.
7. Sri N.V. Sreedharan do.
8. ,, K. P. Pauly do.
9. ,, P.I. Pappachan, Municipal Chairman, Kunnamkulam.
10. ,, A.M. Paraman, Municipal Councillor, Trichur.
11. ,, K. Vasudevan Menon, President, Koorkancherry Panchayat.
12. ,, A.K. Abdulla Master, President, Eriyad Panchayat.
13. ,, S.S. Naidu (Child Welfare Council).
14. ,, M.V. Kurian (N.G.O. Association).
15. ,, K.V. Francis (N.G.O. Union).
16. ,, P.I. Issac (N.G.O. Union).
17. ,, E. Kunjunny Menon, J.C.S.O.
18. ,, P. Chithrabhanu, K.A.P.T.U.
19. ,, M. Madhavan, I.N.T.U.C.
20. ,, K. A. Paul, A.I.T.U.C.
21. Dr. K.K. Eashy, Medical Officer, I/c., P.H. Centre, Ollur.
22. ,, A. Viswanathan, do. Kadappuram.
23. Health Visitors, P.H. Centre, Thiruvilvamala and Alapad.
24. Block Extension Educators, P.H. Centre, Erumapetty and Vadakkekad.
25. Sri C.M. Choru, F.P.H.A., P.H. Centre, Erumapetty.
26. Smt. C.L. Thressia, A.N.M., P.H. Centre, Mattathur.
27. Mass Edn. and Information Officer and Dy. Mass Edn. and Information Officers.
28. Dist. P.H. Nurse.
29. Sri P. K. Raja, Kerala Varma College, Trichur.
30. Mrs. Saradha Balakrishnan, Vatanapilly.
31. Satisfied F.P. Acceptor Sri K.K. Sivaraman, Panamkulam.
32. do. P.V. Kunjumon, Cherpu.
33. Sri E.C. Somanathan Vydvar, P.O. Mattathur.

Kottayam on 24-1-1977

1. Sri Kurian Uthuppu, Municipal Chairman, Kottayam.
2. ,, P.A. Padmanabha Panicker, Nedumtharayil House, Padinjarekara, Vaikom.
3. Smt. Umadevi Antharjanam, Thaliyil Mana, Kalamppoor.
4. Smt. Mary P. John, Kollamkeril House, Aymanam, Kottayam.
5. K. Gopikuttan Nair, N.S.S. College, Changanacherry.
6. Dr. P.C. Cherian, Govt. Dispensary, Kuruppumthara.
7. V.R. Rajappan, B.E.E., P.H. Centre, Edayazhom.
8. Thankamma Mathew, P.H. Nurse, P.H.C. Athirampuzha.
9. Susy George Isaac.
10. Smt. K.T. Remani, A.N.M. F.W. Centre, Ericadu.
11. ,, V.N. Meenakshi Amma, District Public Health Nurse.
12. Sri K. K. Damodaran, Secretary, I.N.T.U.C., Kottayam.
13. ,, M. Vasudevan, Panchayat President, T.V. Puram.
14. ,, K. K. Khalid Rawther, Municipal Councillor, Kottayam.
15. ,, P.T. Thomas, C.M.A.I., F.P. Project, Kottayam.
16. Dr. Mary P. John, Consultant in Gynecology, and Obstetrics Mandiram Hospital, Manganam.
17. Dr. Mariamma Joshua, D.M. O.H., Kottayam.
18. Dr. Ammini Philip, C.F.P.M.O., Kottayam.
19. K. V. Kocheria, A.I.T.U.C.
20. Sri K. K. Cherian, Headmaster, C.M.S. L.P.S. Channanikadu.
21. ,, K.N. Kesavan Nair, Panchayat President, Aymanam.
22. ,, K. K. Thankappan, F.P.H.A, Mannanam.
23. ,, M.R. Govindan Nair, Mattappallil, Mannanam.
24. ,, P.M. Joseph, Panchayat President, Kumaranalloor.
25. ,, A.O.M. Saali, District Muslim League Assistant Secretary.
26. ,, K.K. Muhammed Methar, State Council Member, Muslim League, Kottayam.
27. Dr. P. K. Nampoothiri, President, Govt. Medical Officer's Association, Kottayam.
28. Sri K.M. Punnoose, Chairman, Pallom Block Development Committee.
29. ,, K. G. Sridharan Pillai, Deputy M.E.I.O., Kottayam.
30. P.K. Mathew, President, Thalayolapparambu Panchayat.
31. Dr. C.A. Rajan, Associate Professor of Neuro-Surgery, M.C.H., Kottayam.

32. Sri N.A. Thankappan, Perumpaikkad P.O., Kottayam.
33. Dr. C.K. Harindran Nair, G.K.M. Hospital, Pampadi.
34. Dr. K. Vijayadharan Pillai, M.O., P.H.C., Mandankunnu.
35. Sri A.I. Abraham, Director, Rotary Club, Kottayam.
36. Dr. Epen Mathai, M.O., P.H.C., Erumely.
37. Smt. Rosamma George, Deputy M.E.I.O., Kottayam.
38. Sri T.C. Chacko, Panchayat President, Arpukkara.
39. Dr. K. M. Varghese, Secretary, I.M.A., Kottayam.
40. Dr. H. Balasubramanyam, Anantha Nursing Home, Kottayam.
41. Sri P.J. Mathai, President, Medical College Junior Lab. Asst. Association, M.C.H., Kottayam.
42. ,, Madayar Ramanan, District Secretary, Joint Council, Kottayam.
43. ,, P.S. Sankaran Nair, Programme Officer, N.S.S., D.B. College, Thalayolaparamb.
44. V.K. Chandramathy, P.S.P. District Chairman, Kottayam.
45. Sri Grace, P.H.N., St. Thomas Hospital, Changanacherry.
46. ,, Alna, Kizhakkekara, N.M.T.M.M. Sisters, Changanacherry.
47. ,, T.D. Chacko, N.U.T.E.E Telephones, Kottayam.
48. Fr. Thomas Viduvelikunnel, S.B. High School, Changanacherry.
49. Sri V. Yeshodharan, M.E.I.O., Kottayam.
50. ,, E.K. Gopalan.
51. ,, T.K. Balachandran, F.H.A., Karukachal.
52. ,, M.N. Balachandran Nair, B.E.S., P.H.C., Paika.
53. ,, P. J. Pailo, Winner's Arts Club, Kuravilangadu.

Appendix VII

DETAILS OF STAFF AT THE STATE AND DISTRICT LEVELS

State Level

Deputy Director of Health Services (F.W and M.C.H)	....	1
Assistant Director of Health Services (F.W.)	....	1
Assistant Director of Health Services (M.C.H.)	....	1
Medical Officer (I.U.D.)	....	1
State Mass Education and Media Officer	....	1
Chief Health Education Officer	....	1
Editor	....	1
Demographer	....	1

Social Scientist	....	1
Administrative Assistant	....	1
Senior Superintendent	....	1
S·A·S· Accountant	....	1
Senior Accountant	....	1
Stores Officer	....	1
Accountant (J·S·)	....	1
Statistician	....	2
Statistical Assistant/Investigator	....	2
Evaluation Workers (F·W·E·W·)	....	5
U·D· Clerk	....	4
U·D· Accountant	....	1
L·D·Clerk	....	8
U·D·/L·D· Typist	....	2
Stenographer	....	1
Stenotypist	....	1
Artist-cum-Photographer	....	1
Driver	....	7
Packer	....	1
Peon	....	4
Van Cleaner	....	1

District Level

District F·W·M·O·	....	1
Administrative Assistant	....	1
U·D· Clerk	....	1
U·D· Accountant	....	1
U·D· Clerk (Stores)	....	1
Cashier (L·D·)	....	1
Clerk-cum-typist (L·D·)	....	1
Driver-cum-Mechanic	....	1
Cleaner	....	1
Mass Education and Information Officer	....	1
Deputy Education and Information Officer	....	1
Statistical Assistant	....	1
Computer	....	1

Appendix VIII

COMMITTEES

State level**1. Cabinet Sub-Committee**

Chief Minister	Chairman
Minister for Health	Member
Minister for Finance	Member
Minister for Local Self-Government	Member
Secretary to Government (Health)	Convener
Director of Health Services and Deputy Directors of Health Services (F.W. and M.C.H.)	Advisers

2. State Family Welfare Council

Minister for Health	Chairman
Deputy Director of Health Services (F.W. & M.C.H.), Officials and Non-officials	Convener Members

3. State Managing Committee for ex gratia allowances to the cases of fatality/ complication after sterilisation, I.U.D. insertion.

Secretary to Government (Health)	Chairman
Director of Health Services	Member
Deputy Director of Health Services (F.W. and M.C.H.)	Member

4. Technical Committee

Director of Health Services	Chairman
Professors from Medical Colleges and Senior Officers of Family Welfare Department, Superintendent of Women and Children Hospitals, Medical Officer of F.P. Association and Regional Director, Government of India	Members

5. Committee for Involvement of Panchayats and C.D. Blocks in Family Welfare

Secretary to Govt. (Health)	Chairman
Special Secretary to Development Department	Member
Special Secretary, Labour and Social Welfare Department	Member

Director of Health Services	Member
Director of Indigenous Medicine	Member
Director of Municipalities	Member
Director of Panchayats	Member
6. State Level Mass Co-ordination Committee	
Minister for Health	Chairman
Secretary to Govt. (Health)	Vice-Chairman
Deputy Director of Health Services (F.W. and M.C.H.) and Officers of Mass Media Units of State and Central Governments, Trivandrum	Members
7. Committee for Involvement of Organised Sector	
Minister for Health	Chairman
Secretary to Govt. (Health)	Member
Secretary to Govt. (Labour)	Member
Director of Health Services	Member
Assistant Medical Officer (E.S.I.)	Member
Regional Officers of Workers Educational Centres	Members
Labour Leaders	Members
8. Grants Committee	
Secretary to Govt. (Health)	Chairman
Director of Health Services	Member
Deputy Director of Health Services (F.W. and M.C.H.)	Member
Regional Director, Government of India, Trivandrum	Member

District level

1. District Family Welfare Advisory Committee	
District Collector	Chairman
District Medical Officer	Member
District Information Officer	Member
District Panchayat Officer	Member
Field Publicity Officer	Member
All Block Development Officers	Members

- | | |
|---|-----------------|
| District Family Welfare Medical Officer | Convener |
| District M.E.T.O. | Member |
| District Educational Officers | Members |
| Non-Official members including members of the State
Family Welfare Council of the District | Members |
2. District Level Mass Education and Co-ordination Committee
- | | |
|------------------------------|-----------------|
| District Medical Officer | Chairman |
| District Information Officer | Member |
| M.E.I.O. | Member |
| Field Publicity Officer | Member |
3. Block Level Committee
- | | |
|---|-----------------|
| Chairman of the Block Development Committee | Chairman |
| Panchayat Presidents | Members |
| Medical Officers of Primary Health Centres | Members |
| Block Extension Educators | Members |
| Executive Officers of Panchayats | Members |
| Representatives of voluntary Organisations | Members |
| Members of State Family Welfare Council of District
Family Welfare Advisory Committee of the respec-
tive areas | Members |
4. Bipartiate Committee for the involvement of Organised Sector
- | | |
|--|--|
| Representatives of Managements, Labourers, Labour
Union leaders | |
|--|--|

Appendix IX

DETAILS OF STAFF SANCTIONED AND IN POSITION AS
ON 31.3.1977 AT KOZHIKODE AND TRIVANDRUM
TRAINING CENTRES

Sl. No.	Designation	Kozhikode		Trivandrum		Scale of pay Rs.
		No. sanctioned	No. in position	No. sanctioned	No. in position	
1.	Principal	1	1	1	1.	850-1450
2.	Medical Lecturer-cum-Demonstrator	1	1	1	1	600-1200
3.	Health Educator Instructor	1	1	1	1	600-1200
4.	Statistician	1	Vacant	1	1	510-995
5.	Social Science Instructor	1	Vacant	1	1	495-835
6.	Health Education Extension Officer	4	3 (1 post vacant)	3	3	495-835
7.	Public Health Nurse Instructor	1	1	1	1	495-835
8.	Office Superintendent	1	1	1	1	405-660
9.	Computer (U.D.C.)	1	1	1	1	275-525
10.	Clerk-cum-Accountant-cum-Store-keeper	1	1	1	1	275-525
11.	Artist-cum-Draftsman	1	1	1	1	275-525
12.	Steno-Typist	1	1	1	1	240-540
13.	Clerk-Typist	1	1	1	1	230-385
14.	Peon	1	1	....	....	196-265
15.	Driver	3	2 (1 post vacant)	3	3	215-370
16.	Driver-cum-Projectionist	1	Vacant	1	Nil	240-445
17.	Cook	2	Vacant	1	Nil	196-265
18.	Gardener-cum-Watchman (Hospital Attendant Gr-II)	1	1	....	....	196-265
19.	Hospital Attendant Gr-II	3	3	6	6	196-265
Total		27	20 (7 vacant)	27	25	

Appendix X

DETAILS OF ALLOCATION OF HOURS AMONG THE VARIOUS METHODS OF TEACHING FOR EACH OF THE COURSES

Methods	Kozhikode				Trivandrum			
	Course				Course			
	1	2	3	4	1	2	3	4
	Trg. for 30 days for MOs and BEEs	Trg. for 30 days for HS and HW (F) Supervision	Trg. for 35 days for HW and HS (M)	∴ ∴	Trg. for 30 days for MOs and BEEs	Trg. for 12 days for Health Supervision (M) and (F)	Nurses 6 days duration	Co-operative Educational Instruction
	hrs.	hrs.	hrs.		hrs.	hrs.	hrs.	hrs.
Lecture	108	105	115	....	88	17½	17½	13
Group discussions	16	14	12	....	14	18	6	3
Seminars	....	....	....	....	2	3	....	....
A.V. Aids	....	2	2	....	7	Nil	2½	Nil
Field trips	15	48	64	....	33	26	5	....
Others including demonstration and practicals	47	15	21	....	27	3	....	....
Formalities like inauguration, valedictory function pre and post education, etc.	....	....	....	....	9	4½	5	2
Total	186	184	214	....	180	72	36	18

Appendix XI**LIST OF INSTITUTIONS IN THE STATE FOR POSTPARTUM PROGRAMME****A. Type:****Teaching institutions**

1. S.A.T. Hospital, Trivandrum.
2. Medical College Hospital, Alleppey.
3. Medical College Hospital, Kottayam.
4. Institute of Maternity and Child Health, Calicut.

Non-teaching

5. Women and Children's Hospital, Trivandrum.
6. Victoria Hospital, Quilon.
7. Women and Children's Hospital, Alleppey.
8. General Hospital, Ernakulam.
9. Women and Children's Hospital, Mattancherry.
10. Maternity Hospital, Trichur.
11. District Hospital, Palghat.
12. District Hospital, Cannanore.

B. Type:

13. District Hospital, Mancheri.

Appendix XII**LIST OF INSTITUTIONS WITH FACILITIES FOR ORAL CONTRACEPTIVE PROGRAMME**

1. S.A.T. Hospital, Trivandrum.
2. W. and C. Hospital, Trivandrum.
3. Fort Hospital, Trivandrum.
4. Primary Health Centre, Vilappil.
5. Victoria Hospital, Quilon.
6. W. and C. Hospital, Alleppey.
7. Government Hospital, Kayamkulam.
8. Medical College Hospital, Kottayam.
9. Government Hospital, Changanacherry.
10. General Hospital, Ernakulam.
11. Primary Health Centre, Malipuram.
12. Maternity Hospital, Trichur.

13. Primary Health Centre, Vellanikkala.
14. District Hospital, Palghat.
15. Primary Health Centre, Koduvayur.
16. District Hospital, Manjeri.
17. Medical College Hospital, Calicut.
18. Government Hospital, Badagara.
19. Primary Health Centre, Balussery.
20. District Hospital, Cannanore.
21. District Hospital, Calicut.
22. F.P. Association of India, Trivandrum.
23. I.S.R.O. Medical Centre, Thumba.

Appendix XIII (a)

LIST OF STUDIES BY DEMOGRAPHIC AND EVALUATION CELL

1. Factors motivating individuals to accept vasectomy.
2. On the Demographic characteristics of acceptors at the tubectomy camp at St. Thomas Hospital.
3. Study of cases of rejected vasectomy operations in mass vasectomy camp at Palghat.
4. Study of cases of rejected vasectomy operations in mass vasectomy camp at Kottayam.
5. Note on the M.T.P. in Kerala State 1972.75.
6. do. 1975.76.
7. I.U.D. insertion—A study to work out the retention rates.
8. Family Welfare Camp in Kerala. (February-March 1976.)
9. On the eligibility study of Government Servants to adopt Family Welfare methods and their acceptance position.
10. Study on the reasons that prompted women to accept sterilisation.

Appendix XIII (b)

LIST OF STUDIES BY DEMOGRAPHIC RESEARCH CENTRE, TRIVANDRUM

<i>Sl.No.</i>	<i>Title of paper</i>	<i>Month of issue</i>
1.	A note on the vital events in Travancore-Cochin Region of Kerala	February, 1959
2.	Trend in registered births and deaths in Travancore-Cochin part of Kerala	do.
3.	Attitude to Family Planning Volume I (Revised March 1961)	July, 1960

<i>Sl.No.</i>	<i>Title of paper</i>	<i>Month of issue</i>
4.	On the response to Family Planning	October, 1960
5.	On the incidence of Small-pox in Travancore-Cochin part of Kerala	December, 1960
6.	Mortality tables for Kerala 1941-50	do.
7.	A study of the demographic characteristics of certain occupational groups in Kerala	do.
8.	On the age at marriage, age at first delivery and age at widowhood	October, 1961
9.	A study of persons who have undergone sterilisation operation	January, 1962
10.	Attitude to Family Planning Volume II	March, 1962
11.	Do. III	do.
12.	Do. IV	do.
13.	A study of birth weight of infants and duration of labour	September, 1962
14.	Fertility control in Kerala—A study of couples visiting Family Planning Clinics	do.
15.	Attitude to Family Planning Volume V	November, 1962
16.	Do. VI	do.
17.	Do. VII	do.
18.	Do. VIII	do.
19.	Do. IX	do.
20.	Studies in Demography Volume I	March, 1963
21.	Demographic particulars of sterilised persons 1961.62	do.
22.	A study of the after-effects of sterilisation	September, 1963
23.	Life tables for Kerala 1931.40	October, 1963
24.	Report on the intensive village survey in Sreekariyam	December, 1963
25.	Attitude to Family Planning Volume I	December, 1963
26.	Demographic particulars of sterilised persons 1962.63	do.
27.	Population of Kerala	July, 1965
28.	Models in Mortality Research	May, 1965
29.	A study of persons who have undergone sterilisation operation 1963.64	May, 1965
30.	Sterilisation as a method of Family limitation in Kerala	September, 1965

<i>Sl.No.</i>	<i>Title of paper</i>	<i>Month of issue</i>
31.	The fertility pattern of the women in Kerala	November, 1965
32.	A study of the couples visiting Family Planning Clinics	January, 1966
33.	Demographic particulars of sterilised persons in Trichur District 1964.65	February, 1966
34.	Report on the demographic particulars of sterilised persons in Quilon District 1964.65	March, 1966
35.	Do. in Kottayam District 1964.65	May, 1966
36.	Do. in Ernakulam District 1964.65	August, 1966
37.	Do. in Kozhikode District 1964.65	do.
38.	Do. in Trivandrum District 1964.65	September, 1966
39.	Do. in Cannanore District 1964.65	December, 1966
40.	Report on the intensive field survey to study the impact of industrial public health, family planning and extension activities on fertility and mortality	do.
41.	Report on the demographic particulars of sterilised persons in Alleppey District 1964.65	January, 1967
42.	Do. in Palghat District 1964.65	February, 1967
43.	Do. in Trichur District 1965.66	March, 1967
44.	Population of Trichur District	do.
45.	Demographic particulars of sterilised persons in Quilon District 1965.66	August, 1967
46.	Do. in Ernakulam District 1965.66	January, 1968
47.	A study of the effect of Marumakkathayam on the fertility pattern of women in Kerala Volume I	February, 1968
48.	Do. Volume II	March, 1968
49.	Demographic particulars of sterilised persons in Cannanore District 1965.66	June, 1968
50.	Do. in Palghat District 1965.66	do.
51.	Variation in fertility between two generations	July, 1968
52.	Sterilisation operations in Kerala	do.
53.	A case study of I.U.C.D. acceptors in two hospitals in Trivandrum City.	October, 1968
54.	Demographic particulars of sterilised persons in Kottayam District 1965.66	do.
55.	Do. Cannanore District 1965.66	June, 1968

<i>Sl.No.</i>	<i>Title of paper</i>	<i>Month of issue</i>
56.	Fact Book of population and Family Planning	June, 1969
57.	Population of Ernakulam District	March, 1970
58.	On a Method of Estimating Dejure birth and death rates from Defacto registration Records in the presence of under registration	do.
59.	A study of the sterilisation in Kerala during 1967.68	September, 1970
60.	A Demographic Profile of setrilised persons in Kerala 1967.68	October, 1970
61.	Population of Cannanore District	November 1970
62.	Social and cultural aspects of fertility of women in Kerala	do.
63.	Report on the Evaluation of Family Planning Activities in Perunkadavila Block	January, 1971
64.	A study of I.U.C.D. acceptors in Kerala during 1966.67 and 1967.68	March, 1971
65.	Population of Kottayam District	April, 1971
66.	A study of the Mass Vasectomy camp at Ernakulam from 20.11.1970 to 20.12.1970.	July, 1971
67.	Peculiarities in the study of worker participation rate in Kerala	October, 1971.
68.	Sterilisation in Kerala (1968.69) an appraisal	November., 1971
69.	A study of the I.U.C.D. acceptors in Kerala during 1968.69	do.
70.	Knowledge and practice of Family Planning in Rural, Kerala	December, 1971
71.	A study of the family planning registers in Primary Health Centres	December, 1971
72.	Report on attitude survey of workers in Estates and Factories	May, 1972.
73.	Report on Second Mass Vasectomy Camp at Ernakulam	May, 1972
74.	A report on the family planning festival at Trivandrum	May, 1972
75.	High lights of persons sterilised in Kerala, 1969.70	January, 1973
76.	Some demographic aspects of I.U.C.D. adopters in Kerala during 1969.70	March, 1973

<i>Sl.No.</i>	<i>Title of paper</i>	<i>Month of issue</i>
77.	On the effect of family planning programme on the birth rate in Kerala	September, 1973
78.	A note on the calculation of births averted due to the family planning programme in Kerala	October, 1973
79.	Growth and characteristics of the population of Kerala and the impact of family planning programme	December, 1973
80.	A note on the trend in life expectancy in Kerala over the years	December, 1973
81.	Trichur Mass Vasectomy Camp, 1972—an Analysis	January, 1974
82.	Family Planning Festival at Cannanore (11.3.1972 to 10.4.1972)	February, 1974
83.	Sterilisation Programme in Kerala—A broad strategy of Economic Development	December, 1974
84.	Salient characteristics of migration in Kerala	March, 1975
85.	Mortality differentials among the Natural Regions of Kerala	May, 1975
86.	Characteristics of sterilised persons in Kerala 1957-71	May, 1975
87.	Some pattern of migration in Kerala	October, 1975
88.	Demographic characteristics of I.U.C.D. adopters 1970-71	December, 1975
89.	A follow up study of family planning acceptors of the Mass Vasectomy Camp, Trivandrum	do.
90.	An Innovative Sterilisation campaign (Report of Mini Family Planning Camp at Kozhikode from 1.12.1975 to 9.1.1976)	April, 1976
91.	A Mini Vasectomy Camp at the premises of the Hindustan Latex at Peroorkada, Trivandrum from 26.2.1976 to 1.3.1976	September, 1976
92.	An assessment of the camp performance and the unprotected couples in Palghat District after the Mass Camp	November, 1976
93.	Demographic Report of Kerala—1901.61	September, 1976
94.	Recent Trends in I.U.C.D. acceptance in Kerala	May, 1977
95.	A study of sterilised persons in Kerala—1971.74	July, 1977
96.	Report on Fertility Survey—Malappuram District	August, 1977

Appendix XIII (a)

FAMILY PLANNING COMMUNICATION ACTION
RESEARCH CENTRE, DEPARTMENT OF SOCIOLOGY,
UNIVERSITY OF KERALA, KARIAVATTON

List of Reports published

1. Baseline Survey 1962.
2. Study on the Impact of Family Planning Education on Wives 1964.65.
3. A study on Effectively Sterilised Wives, 1966.
4. A study on the Impact of Family - Planning Education on Husbands, 1967.
5. Standard Fertility Survey 1965.67.
6. Report on Family Planning Action Research 1966.
7. A study on the Effectiveness of Sterilization in Reducing the birth rate.
8. Study of Male Acceptors at District Family Planning Camps.
9. A study on the Response on desired and expected number of children as indicators of Family planning Acceptance.
10. A case study of the Medical Termination of Pregnancy.
11. Comparative study of the characteristics of Male Acceptors at District Vasectomy Camps.
12. Baseline Survey of Kazhakuttam Panchayat (Report under preparation).
13. District Fertility Survey, Trivandrum (Report under preparation).
14. Study on Mini-Laparotomy Acceptors.
15. Industrial Workers Camp at Hindustan Latex Ltd., Trivandrum.
16. Study of the role of Voluntary Organisations in Family Planning Programmes in Kerala.
17. Study on the Medical Termination of Pregnancy.

Appendix XIV

SUGGESTIONS RECEIVED FROM THE PUBLIC

These are grouped under various headings as follows:—

Administrative

1. All existing vacancies of paramedical posts may be filled up.
2. Religionwise number of sterilizations performed in each district during every month should be published regularly and prominently in daily newspapers.
3. Local, cultural and art organisations to be given grants to enable them to render performance.
4. The Plantation Act of labourers should be amended, so as to stop maternity benefits to female labourers or the wives of the labourers after the 3rd child.
5. There should be more effective co-ordination among the various agencies engaged in mass media efforts.
6. The number of F.P.H.As., No. of vehicles and petrol allotment should not be uniform for all P.H.Cs.; variation should be possible in the above matters, taking into consideration the distance of sub-centres from P.H.C. and the distribution of population.
7. The eligible couple register in each sub-centre to be brought up-to-date, if necessary with the assistance of representatives of voluntary organisations, N.S.S. or the like. This should be always maintained up-to-date.
8. Arrangements may be made to authorise A.E.Os. to sanction leave for teachers to undergo vasectomy.
9. No punishment for those field workers who do not achieve targets, and targets should be more realistic.
10. Compensation allowance to Doctors attending to F.W. work.
11. Steps to be taken to issue permissive sanction by the Director of Panchayats to authorise Panchayats to spend upto a specified amount, for promoting family welfare programme.
12. Owners of factories to be persuaded to sanction leave for workers who accept sterilization.
13. Review of family planning work at District/P.H.C. levels should be made more effective.
14. Copies of updated eligible couple register should be made available to teachers, trade union leaders, political workers, etc.
15. The physical and clinical facilities of sub-centres should be improved.
16. The Control of Family Planning Medical Officers in P.H.Cs. should solely vest with D.F.P.M.Os.

17. A Family Planning Medical Officer to be provided in each Taluk Hospital, whose main duty should be to attend to follow-up care and complication cases.

18. Refresher courses to be organised for field workers to appraise them of latest developments in the field of family planning.

19. Awards to be given on the basis of "Area achievement" of each field worker (and not on the basis of numbers that he or she may bring from several places).

20. The Panchayats which are not at present giving compensation money, may be persuaded to do so.

Organisational

21. An association of satisfied acceptors to be formed to solve their own problems and also to popularise the programme among non-acceptors.

22. A Panchayat ward level family planning committee to be formed consisting of officials and non-officials and this committee should undertake propaganda for family planning, conduct study classes and arrange follow-up of acceptors. They should work like a squad and also assess the extent of potential acceptors in the ward. A similar committee to be formed at the Panchayat level also to co-ordinate the functioning of the ward level committees and these committees to work hand in hand with departmental field workers.

23. More representation to be given to social organisations like Y.W.C.A. in District level Committees.

24. Mahilasanajams in Panchayats to be reactivated and classes (for ladies only) to be organised, where departmental officers also should take classes.

25. In the Block level Advisory Committee, the D.F.P.M.O. should be the joint convener, besides the B.D.O. being the convener as at present.

Propaganda and Extension

Several suggestions have been put forward to make the extension work more effective and to widen the scope of propaganda relating to family welfare.

26. Seminars and study classes should be organised especially for prospective acceptors in slums and rural areas, wherein officials of all departments like Education, Health, Development and Trade Union leaders and representatives of voluntary organisations should be brought together.

27. Special study classes for workers should be arranged by Trade Union leaders.

28. Family planning exhibitions to be organised in slums and rural areas, with the co-operation of voluntary organisations.

29. Charts and graphs on the effect of population explosion to be exhibited in schools to supplement population education already included in School Text-books.

30. Local festivals, melas and important markets to be made use of for intensifying family planning propaganda.

31. Propaganda through audio-visual aids should be taken to rural areas where extension activities should be jointly undertaken by voluntary organisations and departmental field workers.

32. Newspapers and magazines should be encouraged to publish articles and news about family planning.

33. A family planning magazine may be started.

34. More propaganda to be directed to resistant groups, regions and to areas with poor transport facilities.

35. Girls in High Schools and Colleges to be educated about the advantages and safety of tubectomy, M.T.P., and spacing of children.

36. Instead of putting all emphasis on terminal methods only, equal emphasis should be given for spacing.

37. From the lessons on population education, already included in the text books, questions for examination should be made compulsory.

38. In Extension activities, equal emphasis should be given to the safety of the operation, as to economic aspects.

Compensation and Other Kinds of Incentives

There is almost a universal demand for enhancing compensation money to acceptors. Besides, there is strong opinion against the differential rates of incentives based on the number of living children as it is being misused. Suggestions include the following:

39. Besides each incentives, special incentives by way of lottery and prizes should be instituted, for camps, fortnights, etc.

40. Higher compensation to be paid to people from low income groups and this should be nearly one month's wages.

41. One month's rest for those who accept sterilization and are doing physical work, by retaining them in hospitals and providing better medical facilities.

42. Incentives to be given to each acceptor of sterilisation, for two or three weeks, over and above the normal compensation as this will encourage the weaker sections.

43. Free ration to be given to each acceptor of sterilisation, for two or three weeks, over and above the normal compensation as this will encourage the weaker sections.

44. Cash incentives for Medical Officers, to be revived and special incentives for those who exceed targets.

45. Instead of the present higher incentive for low parity acceptors a "Child Health Care" system of free preferential treatment may be introduced for all those who accept sterilisation when they have only two children.

46. Employers to give a lump sum payment of two or three months pay as bonus to those workers who accept sterilisation.

47. Instead of paying promoters fee in cash an increment or good service entry may be given.

48. A certain percentage of jobs to be reserved for the sons and daughters of acceptors of sterilization from lower income groups.

49. Free dress and books for education to be given to sons and daughters of sterilization acceptors.

50. A portion of excess land to be reserved for free distribution to acceptors of sterilization.

51. A section of ANMS/FPHAs is of opinion that there should be no promoters fee.

52. Preference for employment to be given to those who have promoted a specified number of cases for which a certificate should be produced.

Disincentives

53. Ration should be given only to two children. This measure may be implemented at least as a trial.

54. Maternity benefits to be denied to all those who beget more than three children.

Complications

Concern was expressed by many regarding complication cases, even though the number of such cases was insignificant. It was pointed out that arrangements for avoiding complications are satisfactory under normal programme but not so in camps.

55. The Chairman suggested that all precautions should always be taken and that wherever complication cases were found to be large, special investigation should be conducted.

56. Arrangements to be made for the maintenance of the family of those who develop complications and either die or become disabled.

57. Priority for case and free treatment of complication cases to be ensured, wherever such cases are taken to.

58. The existing facilities for dealing with complications and the compensation available, may be widely made known to the public.

Religious Opposition

According to many, religious opposition of Muslims-especially in rural areas is still a reality. To get over this, the following suggestions have been put forward.

59. Pamphlets explaining that the Muslim religion is not against family planning, should be prepared in simple Malayalam and Urdu Languages and distributed in rural areas.

60. Similarly, the statements by religious heads and leaders should also be prepared and distributed.

61. Conference of top religious leaders to be held at State and District level seeking their co-operation in propagating the programme.

Voluntary Organisations

There was unanimous suggestion that the involvement of voluntary organisations especially in rural areas should be activated, suggestions made are:

62. Members of these organisations and trade union leaders should conduct classes for workers, regarding the need for acceptance of Family Planning.

63. Grants should be given to voluntary organisations to ensure their co-operation.

64. The membership of these organisations should include ordinary people and not those from higher strata only.

Follow-up of sterilized persons

65. A family "Health Card" to be given to each acceptor, with which, he should be able to get free periodical medical check up and necessary after-care on a preferential basis for himself and his family members. This will ensure survival of children.

66. A separate family planning ward to be set up in district/taluk hospitals for follow-up treatment.

67. During follow-up visits, health and family planning workers should be in a position to advise and give some vitamin tablets to the acceptors.

68. A separate follow-up machinery to be set up for ensuring proper follow-up care.

Mini Camps and Fortnights

During celebration of fortnights, a Panchayat or an area may be adopted for concentrating all efforts. This would avoid the chances of complication.

69. The place and period of mini camps to be fixed in consultation with the ward level committees (to be formed).

70. At least one unit of "Mini Camp", which should be a running feature, rendering service on all days, to be set up in each district.

71. Intensive work like camps and fortnights to be carried on only in areas which have so far lagged behind—the normal programme alone need be carried on in areas which have done well so far.

Evaluation and Research

72. A seminar of medical men, psychologists, etc., should be organised on the "After effects" of sterilization. The results of the deliberations to be fed back into the programme and necessary further research undertaken.

73. A state-wide survey of sterilised persons should be conducted by a team of scientists from various related disciplines, to study the after-effects.

74. A study on the cost of rearing children should be conducted so as to convince Government and other agencies that a compensation of Rs. 100 is not high.

75. An attitude survey should be conducted in areas of low family planning acceptance to find out the reason for non-acceptance and the extent of non-acceptance.

Fixing of Targets

76. The targets fixed should be the minimum, not the maximum.

77. Targets should be fixed not uniformly for the Districts (and for all Primary Health Centres within each District) but in relation to the number of eligible couples found in the area of each field worker, and the number already sterilised previously.

78. In fixing targets, special consideration should be given to problem areas—like those with predominance of Muslims or areas from where the majority of husbands are in foreign lands.

Provision of increased facilities for Family Planning

79. Tubectomy facilities to be introduced in Primary Health Centres having higher number of births.

80. Recanalisation facilities to be provided in all District Hospitals.

81. Facilities for examination of semen should be made available in all Primary Health Centres.

Others

82. Steps to be taken to persuade political parties to become actively involved in popularising the programme.

83. Family planning to be intensified in the slum areas of corporations by payment of additional compensation.

84. Sterilisation operation to be done only after each person has been mentally prepared to face the consequences, by proper tutoring up.

85. Special training to be given to Doctors for doing sterilisation operations.

86. More financial aid for medicines to be given to private institutions which do family planning work.
87. The reimbursement of compensation due to acceptors who got themselves sterilised from private institutions, to be expedited.
88. The legal provision of higher age at marriage and registration of marriages should be strictly enforced.
89. A crash programme for areas which are lagging behind in family planning acceptance should be planned, even at the risk of slowing down the programme in areas of hitherto good performance.
90. Sterilisation should not be done for those with one child as it is very insecure.
91. Compulsory sterilization to be introduced for Government Servants at the first phase, and to be extended to the general population later.
92. Departmental inspection of family planning work done in private institutions should be enforced strictly by cross checking in the field the details kept in the registers of private hospitals.
93. The performances of a field worker should not be judged only by the number of vasectomy cases brought by him but also by house visits made by him and the number of persons who have been educated by him. If possible a composite index of performance to be evolved.
94. In all Government forms, besides marital status, question on the number of children should also be included and if unmarried what order of child he/she is as this will have a psychic impact.
95. The work in difficult areas to be done by the field workers in co-operation with the representatives of voluntary organisations.

Appendix XV

SUGGESTIONS RECEIVED FROM THE MEDICAL OFFICERS, PARAMEDICAL STAFF AND LEADERS, THROUGH SCHEDULES

Suggestions from Medical Officers (M.Os.)

Before spelling out the suggestions of Medical Officers, it may be mentioned that out of 385 M.Os. who responded 48% had no training in Family Welfare. Among those who had training the period of training varied from one week to one month. 25% of the total respondents had two weeks training, while 13% had one week training. Only three Medical Officers had training of one month in Family Welfare.

The suggestions made by the M.Os. are grouped under some broad headings as those for improving public awareness, motivating acceptance of terminal method, for acceptance of spacing, etc.

Suggestions for improving Public Awareness

89% of the M.Os. had some suggestion or other to improve public awareness, as noted below: -

(a) Documentary pictures on F.W. may be shown to the Public, as audio visual programmes are most effective (39% of the M.Os. have made this suggestion).

(b) 23% of the M.Os. have suggested the imparting of proper family welfare education to the rural population.

(c) 13% have stressed on the need for active participation of religious and political leaders in propagating F.W.

(d) 5% of the M.Os. have expressed the view that all Government Departments should be involved in F.W.

Suggestions for acceptance of terminal method and for spacing

(a) Increase the remuneration of the acceptors of terminal methods.

(b) Enough facilities should be provided for conducting minilap in all P.H.Cs.

(c) Free medical and maternity benefits and education as also ration should be denied to those having more than three children.

(d) Preference for employment should be given to the children of those accepting sterilization.

(e) Payment of promotion fee to be enhanced.

(f) Imparting postnatal F.W. advice to mothers.

(g) M.Os. should take class for mothers to make them understand the necessity for spacing.

(h) Introduction of injection for spacing.

Suggestions regarding MTP

(a) 26% of the M.Os. have suggested that more facilities should be provided for doing M.T.P. at the P.H.C. level.

(b) Better and wider publicity should be given about M.T.P. among the village folk.

(c) Some of the M.Os. have suggested that M.T.P. may be adopted only in cases of contraceptive failure.

(d) All M.Os. to be given training in M.T.P.

(e) Advice to be given for adopting I.U.D. or sterilisation after M.T.P.

Suggestions for overcoming rumours

- (a) Health education facilities to be increased.
- (b) Personal contacts of prospective clients to be extended and group discussions to be encouraged.
- (c) Acceptors must be made to act as promoters.
- (d) Peripheral workers could combat rumours by propagating the correct facts about unfounded news.
- (e) Legal action should be taken against those who purposely spread rumours against F.W.

Suggestions of a general nature

- (a) Educational materials in local language should be supplied.
- (b) Supply of other materials required for the P.H.C. should be prompt, sufficient and of high quality.
- (c) F.W. service facilities should be provided in sub-centres.
- (d) Follow-up services of acceptors should be strengthened.

Suggestions received from ANMs and FWHAs.

279 ANMs and 188 FWHAs have responded. Their opinions can be grouped under three headings—namely, obstacles in the way of F.W. activities, suggestions for removing such obstacles and concrete suggestions for furthering the programme.

The obstacles in the way of F.W. activities according to these grass root level workers are the following:

- (a) 43% of the respondents have reported religious objection as one of the obstacles.
- (b) 31% of the respondents believe that fear, illiteracy and spreading of rumours as the main obstacles.
- (c) According to some others (23%) complication arising from sterilisation/I.U.D., is a factor standing in the way of furthering the programme.
- (d) A few have mentioned, unwieldy area, over-working of staff and insufficient compensation money, as obstacles.

Suggestions for removing the obstacles

- (a) 37% of the respondents have suggested more publicity about F.W.P. in regional language.
- (b) Co-operation of political and religious leaders is seen as an important remedy by 32% of the respondents.
- (c) Another 23% have suggested the development of some easy method of preventing birth.
- (d) The work-load of the field staff should be regulated.

Concrete suggestions for furthering the programme

- (a) Intensified motivational work with the help and involvement of local and religious leaders (30%).
- (b) Increased medical care for the acceptors of sterilisation and their dependents should be provided for at least 3 years from the date of operation.
- (c) Promoters' fee should be enhanced.
- (d) Special concessions and priorities should be given to the acceptors and their dependents, in respect of educational, employment and medical facilities.
- (e) The age at marriage to be raised.

Suggestions received from leaders

The 1172 respondents under this category, consist of political leaders like M.Ps., M.L.As., Panchayat Presidents, Trade Union Leaders, Doctors Government servants, Agriculturists, Merchants, Factory workers, etc. 46% of the respondents are political leaders of one or the other category mentioned above. About 8% are trade union leaders, while 5% are Doctors. Their suggestions are grouped under two headings, as given below:

SUGGESTIONS FOR MOTIVATING THE COUPLES TO
ADOPT F.W.P. METHODS AND FOR IMPROVING
THE F.W.P.

- (a) A large percentage (44%) has suggested adequate F.W. education to all the couples.
- (b) Propaganda against F.W.P. should be stopped by law or any other method.
- (c) Incentives should be enhanced.
- (d) All kinds of benefits should be denied to large families.
- (e) About 12% of the respondents have suggested compulsory sterilisation by law.
- (f) Majority of the respondents (61%) have suggested increased incentives for acceptors.
- (g) More propaganda through fine art media and through religious leaders has been suggested by 48%.
- (h) 40% have suggested provision of more facilities for aftercare of acceptors.
- (i) Greater involvement of co-operative and voluntary agencies in furthering the F.W.P. should be ensured.
- (j) Increase the age at marriage by law.
- (k) Clinical facilities should be improved.
- (l) Sufficient staff should be appointed for F.W. work.

Appendix A-Table 1

POPULATION GROWTH—KERALA AND INDIA—1901—1971

Year	Kerala		India	
	Population (in lakhs)	Decennial growth (%)	Population (in lakhs)	Decennial growth (%)
1901	63.96	....	2383.37	....
1911	71.48	+11.75	2520.05	+5.73
1921	78.02	+9.16	2512.39	-0.30
1931	95.07	+21.85	2788.67	+11.00
1941	110.32	+16.04	3185.39	+14.23
1951	135.49	+22.82	3609.50	+13.31
1961	169.04	+24.76	4390.73	+21.64
1971	213.47	+26.29	5479.50	+24.80

Source: Census of India, 1971—General Population Tables series 9, Kerala and Registrar General of India—Pocket Book of Population Statistics.

Table 2

POPULATION GROWTH OF DISTRICTS IN KERALA-1901 TO 1971

Idukki District not shown separately

Year	Trivandrum	Quilon	Alleppey	Kottayam	Ernakulam	Trichur	Palghat	Malappuram	Kozhikode	Cannanore	State
1901 P	4.85	5.26	6.66	4.72	6.72	6.83	7.64	6.82	6.59	7.87	63.96
DG	....	....	....	....	....	....	....	....	....	....	....
1911 P	5.69	6.03	7.65	5.57	7.66	7.70	8.20	7.48	7.08	8.42	71.48
DG	17.54	14.70	14.83	17.87	13.98	12.65	7.31	9.64	7.53	6.91	11.75
1921 P	6.66	7.15	9.07	6.46	8.38	8.14	8.54	7.64	7.33	8.65	78.02
DG	17.02	18.61	18.53	16.08	9.29	5.72	4.18	2.17	3.49	2.81	9.16
1931 P	8.57	9.14	11.27	8.85	10.61	9.94	9.41	8.75	8.56	9.97	95.07
DG	28.58	27.86	24.33	37.00	26.62	22.14	10.22	14.44	16.82	15.21	21.85
1941 P	10.15	11.46	12.70	10.78	12.81	11.55	10.25	9.77	9.61	11.23	110.31
DG	18.46	25.32	12.69	21.82	20.84	16.17	8.90	11.73	12.22	12.63	16.04
1951 P	13.28	14.78	15.17	13.22	15.36	14.03	12.14	11.50	12.26	13.75	135.49
DG	30.81	29.04	19.41	22.60	19.86	21.53	18.45	17.67	27.59	22.44	22.82
1961 P	17.45	19.47	18.06	17.26	18.06	16.88	13.70	13.87	15.89	17.80	169.04
DG	31.38	31.70	19.03	30.59	21.53	20.32	12.79	20.67	29.56	29.47	24.76
1971 P	21.99	24.13	21.26	20.85	23.83	21.29	16.85	18.56	21.06	23.65	213.47
DG	26.03	23.93	17.73	20.78	27.69	26.09	23.06	33.80	32.60	32.85	26.25

P- Population (in lakhs) DG- Decennial Growth rate.

Source: Census of India, 1971. General Population tables series-9, Kerala.

Table 3

*DENSITY OF POPULATION—DISTRICT-WISE—1901-1971

District	1901	1911	1921	1931	1941	1951	1961	1971
Trivandrum	322	261	305	392	464	607	796	1003
Quilon	111	127	151	192	241	311	421	522
Alleppey	364	418	496	617	695	830	958	1128
Kottayam	75	88	102	140	170	209	270	701
Idukki	....	....	....	....	....	....	....	150
Ernakulam	200	228	250	316	382	458	571	910
Trichur	224	282	267	327	380	463	557	702
Palghat	191	205	216	239	262	309	311	383
Malappuram	....	....	....	....	....	....	381	510
Kozhikode	173	188	193	224	251	310	426	565
Cannanore	139	148	153	176	198	242	312	415
State	165	184	201	245	284	349	435	549

*Density per sq. km.

Source: Fact Book on Population and Family Planning, February 1974, DRC, BE and S, Trivandrum.

Table 4

SEX RATIO (FEMALES PER 1000 MALES) IN THE DISTRICTS 1901-1971

District	1901	1911	1921	1931	1941	1951	1961	1971
Trivandrum	996	990	981	1003	1017	1010	1005	1008
Quilon	987	988	979	998	1005	994	996	1001
Alleppey	986	987	978	993	1000	1019	1027	1028
Kottayam	951	948	933	940	946	969	963	991
Idukki	....	....	....	....	....	....	....	937
Ernakulam	985	988	966	989	991	1003	997	988
Trichur	1004	1009	1051	1075	1082	1105	1093	1081
Palghat	1042	1057	1069	1078	1079	1085	1077	1056
Malappuram	1017	1020	1037	1059	1062	1055	1057	1041
Kozhikode	992	1004	1016	1015	1027	998	992	991
Cannanore	1050	1061	1086	1074	1078	1057	1035	1017
State	1004	1008	1011	1022	1027	1028	1022	1016

Source: Fact Book on Population and Family Planning, February 1974, DRC, BE and S, Trivandrum.

Table 5

POPULATION OF KERALA BY AGE GROUPS—1961 AND 1971

Age group	1961		1971	
	No. in lakhs	Percentage	No. in lakhs	Percentage
0-4	26.70	14.95	28.55	13.37
5-9	22.70	14.46	28.76	13.47
10-14	19.88	3.22	28.64	13.42
15-19	17.37	8.48	23.37	10.95
20-24	15.11	8.49	19.90	9.32
25-29	13.00	7.64	13.88	6.50
30-34	11.19	6.35	12.10	5.67
35-39	9.57	5.98	12.78	5.99
40-44	7.97	4.45	9.93	4.65
45-49	6.64	4.21	9.63	4.51
50-54	5.52	3.31	6.92	3.24
55-59	4.45	2.62	5.72	2.68
60+	8.94	5.84	13.29	6.23
All ages	169.04	100.00	213.47	100.00

Source: Census of India 1961 and 1971.

Table 6

DISTRIBUTION OF POPULATION BY SEX AND AGE GROUPS—KERALA 1971

Age group	Male		Female	
	No. in lakhs	Percentage	No. in lakhs	Percentage
0-4	14.41	13.61	14.14	13.13
5-9	14.58	13.77	14.18	13.18
10-14	14.46	13.66	14.17	13.18
15-19	11.27	10.65	12.10	11.25
20-24	9.78	9.25	10.12	9.41
25-29	6.64	6.27	7.23	6.72
30-34	5.87	5.54	6.22	5.78
35-39	6.18	5.84	6.61	6.14
40-44	4.97	4.69	4.96	4.61
45-49	4.99	4.71	4.65	4.32
50-54	3.52	3.33	3.40	3.16
55-59	2.88	2.72	2.84	2.64
60+	6.32	5.96	6.96	6.47

Source: Census of India 1971

Table 7

PERCENTAGE DISTRIBUTION OF POPULATION BY MARITAL STATUS, KERALA-1971

		Population (in lakhs)	Unmarried No. (in lakhs)	Percentage	Married No. (in lakhs)	Percentage	Widowed No. (in lakhs)	Percentage	Divorced and separated No. (in lakhs)	Per- centage
Male	T	105.88	67.15	63.12	37.11	35.05	1.26	1.19	0.36	0.34
	R	88.52	55.96	63.32	31.16	35.20	1.09	1.23	0.31	0.35
	U	17.36	11.19	64.42	5.95	34.29	0.17	0.99	0.05	0.30
Female	T	107.59	57.37	53.32	38.78	36.04	9.67	8.99	1.77	1.65
	R	90.28	48.14	53.33	32.65	36.16	7.94	8.79	1.55	1.72
	U	17.31	9.23	53.32	6.13	35.42	1.73	9.99	0.22	1.27

T: Total R: Rural U: Urban.

Source: Census of India 1971.

Table 8

PERCENTAGE OF LITERATES IN THE DISTRICTS—1901—1971

District	1901	1911	1921	1931	1951	1961	1971
Trivandrum	13.21	16.70	27.07	26.05	49.90	53.43	62.54
Quilon	10.62	13.51	25.34	26.08	53.38	59.74	64.97
Alleppey	17.36	19.99	33.04	35.73	61.94	66.07	70.44
Kottayam	19.03	21.80	33.20	36.29	62.66	66.64	67.92
Ernakulam	14.21	15.56	24.06	29.98	54.12	59.53	65.29
Trichur	13.76	17.74	21.32	32.85	48.24	57.15	61.61
Palghat	9.54	12.03	13.74	15.19	30.18	39.89	46.69
Malappuram	....	....	....	....	....	....	47.90
Kozhikode	11.25	12.53	14.20	16.09	33.65	47.83	57.23
Cannanore	11.12	14.09	15.58	19.47	40.15	48.45	54.84
State	12.85	15.45	21.95	25.58	47.37	55.08	60.42

Source: Fact Book on Population and Family Planning, Feb., 1974, D.R.C. B.F. and S., Trivandrum.

Table 9

VARIATION IN THE RELIGIOUS COMPOSITION OF THE POPULATION—KERALA 1901 TO 1971

Year	Percentage of				Total
	Hindus	Christians	Muslims	Others	
1901	63.36	13.82	17.28	0.54	100
1911	66.63	15.41	17.68	0.28	100
1921	64.75	17.64	17.43	0.18	100
1931	63.34	19.52	17.08	0.06	100
1941	60.73	20.52	17.08	1.67	100
1951	61.59	20.85	17.53	0.03	100
1961	60.83	21.22	17.91	0.04	100
1971	59.41	21.05	19.50	0.04	100

Source: Census Reports.

Table 10

AGE SPECIFIC FERTILITY RATES—KERALA (RURAL)

Age group	1970	1971	1972	1973	1974	1975
15-19	56.04	48.4	50.0	48.3	44.7	42.0
20-24	191.36	210.8	210.5	204.2	178.7	189.0
25-29	225.11	223.3	235.6	218.7	189.7	195.7
30-34	166.21	173.2	172.9	152.0	134.7	134.8
35-39	128.73	116.7	117.5	98.8	86.4	95.0
40-44	43.22	42.8	45.2	38.2	25.6	29.9
45-49	....	6.9	6.2	6.0	6.9	5.5

Source: B.E.S. Sample Registration Annual Reports.

Table 11

AGE SPECIFIC MARITAL FERTILITY RATE—KERALA (RURAL) 1974

Age group	Rate
15-19	314.6
20-24	321.5
25-29	232.1
30-34	157.8
35-39	101.6
40-44	31.9
45-49	9.4
Total	170.9

Source: B.E.S. Sample Registration Report 1974.

Table 12

AGE SPECIFIC DEATH RATE—KERALA (RURAL)

Age	1970	1971	1972	1973	1974	1975
Below 1	62.20	70.40	69.09	57.57	59.78	66.18
1-4	10.88	13.08	13.14	11.05	9.16	9.63
5-9	3.06	2.39	2.86	2.92	1.98	2.11
10-14	0.80	1.13	0.63	0.90	0.76	1.15
15-19	0.82	1.62	1.27	0.94	1.17	1.18
20-24	2.44	2.05	2.04	1.55	1.76	1.88
25-29	3.62	1.82	1.90	2.35	2.00	2.94
30-34	4.68	3.75	3.80	3.17	2.70	1.84
35-39	6.26	4.01	4.11	3.79	3.26	3.15
40-44	4.54	5.10	4.49	4.62	4.35	4.35
45-49	7.00	7.18	8.28	7.36	6.18	6.65
50-54	11.36	8.48	9.48	11.86	8.99	10.44
55-59	17.30	15.49	14.69	13.19	12.89	16.75
60-64	24.92	23.12	25.08	22.21	24.54	21.73
65-69	39.04	43.58	44.64	36.41	39.83	44.42
70 and above	124.60	102.14	103.28	114.39	104.61	98.99

Source: B.E.S. Sample Registration Annual Reports.

Table 13

EXPECTATION OF LIFE AT VARIOUS AGES OVER DIFFERENT DECADES—KERALA

Age	1911-20		1921-30		1931-40		1941-50		1951-60	
	M	F	M	F	M	F	M	F	M	F
0	25.49	27.41	29.54	32.70	33.19	35.00	39.89	42.34	46.17	50.00
1	32.63	34.98	38.40	39.82	39.62	40.72	46.44	48.49	51.43	55.78
5	33.94	35.20	38.58	40.76	40.76	41.43	47.51	49.98	50.80	55.33
15	29.64	28.87	33.83	33.74	35.84	35.50	40.47	42.71	43.01	47.11
20	26.66	25.68	30.21	29.71	32.14	32.15	36.31	38.29	36.85	42.41
25	23.21	22.97	26.21	26.10	28.43	29.13	32.32	33.99	33.28	38.11
35	17.28	18.79	19.67	20.49	22.03	23.48	25.05	26.33	26.22	30.03
45	12.56	14.20	14.53	15.16	15.82	17.39	18.58	19.53	19.08	22.94
55	8.51	10.05	10.32	10.82	10.49	11.69	13.15	13.55	13.26	16.97
60	6.91	8.42	8.59	9.03	8.78	9.47	10.87	11.12	10.95	14.34

Source: Fact Book on Population and Family Planning, February 1974, Page (53) D.R.C., B.E.&S., Trivandrum.

Table 14

EXPECTATION OF LIFE IN YEARS (AVERAGE FOR 1971,
1972 AND 1973)—KERALA (RURAL)

Age	All persons	Male	Female
0	61.35	60.62	62.08
1	63.80	63.21	64.37
5	62.95	61.98	63.92
10	58.78	57.78	59.77
15	54.03	53.09	54.98
20	49.35	48.42	50.30
25	44.80	43.84	45.78
30	40.23	39.29	41.18
35	35.89	34.97	36.83
40	31.58	30.67	32.50
45	27.27	26.44	28.13
50	23.18	22.43	23.94
55	19.26	18.65	19.91
60	15.52	15.08	15.97
65	12.14	11.90	12.39
70	9.38	9.14	9.62

Source: B.E.S. Sample Registration Report No. 12.

Appendix B—Table 1

K·A·P· SURVEY 1958—PERCENTAGE DISTRIBUTION OF PERSONS ACCORDING TO KNOWLEDGE OF FAMILY PLANNING METHODS

Town	Knowledge of family planning method									
	Nil		Vague		Sufficiently good		Not concerned		Total	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
Trivandrum	66.42	48.40	9.30	24.75	7.50	2.17	16.78	24.68	100.00	100.00
Quilon	43.60	47.04	20.76	21.04	34.31	30.93	1.33	0.99	100.00	100.00
Alleppey	86.95	....	3.36	....	7.14	....	2.55	....	100.00	100.00
Attingal	20.38	....	23.67	....	50.75	....	5.20	....	100.00	100.00
Trichur	64.43	....	18.06	....	1.30	....	16.21	....	100.00	100.00
Palghat	83.16	....	9.30	....	4.83	....	2.71	....	100.00	100.00
Kozhikode	79.04	....	9.75	....	4.79	....	6.42	....	100.00	100.00
Canmanore	32.38	....	57.34	....	5.52	....	4.76	....	100.00	100.00

Source: D·R·C· Trivandrum—Report on K·A·P· Survey 1958, Volumes I to VIII.

Table 2

K.A.P. SURVEY 1958—PERCENTAGE DISTRIBUTION OF PERSONS ACCORDING TO SOURCE
OF KNOWLEDGE OF FAMILY PLANNING METHODS

Source of knowledge	Trivandrum		Quilon		Alleppey		Attingal	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Books or pamphlets	70.02	14.73	43.72	6.95	91.16	31.10	58.31	12.14
2. Doctor or Clinic or Health Department	12.38	51.56	13.90	25.14	1.98	18.58	11.84	3.22
3. From spouse	3.36	28.55	3.20	62.33	0.61	45.96	1.07	77.72
4. Close relations	....	5.16	....	0.07	0.52	....	0.96	....
5. Friends or distant relations	13.14	....	38.03	5.11	5.73	2.20	27.59	5.13
6. Others	0.46	....	1.09	....	....	....	....	....
7. Unspecified	0.64	....	0.06	0.40	....	2.16	0.23	1.79
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 2—(Contd.)

Source of knowledge	Trichur		Palghat		Kozhikode		Cannanore	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1. Books or pamphlets	62.40	54.02	65.52	15.82	74.63	45.53	96.92	23.53
2. Doctor or Clinic or Health Department	2.34	3.68	21.99	32.34	25.37	4.96	2.97	9.31
3. From spouse	1.35	7.12	2.08	34.97	....	48.49	....	67.16
4. Close relations	0.25	0.41	1.04	2.81	....	....	....	....
5. Friends or distant relations	32.31	34.77	8.33	....	....	....	0.11	....
6. Others	....	....	1.04	....	....	....	....	....
7. Unspecified	1.35	....	....	14.06	....	1.02	....	....
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: D.R.C. Trivandrum Report on K.A.P. Survey 1958, Volumes I to VIII.

Table 3

K. A. P. SURVEY 1958—PERCENTAGE DISTRIBUTION OF PERSONS ACCORDING TO KNOWLEDGE
OF FAMILY PLANNING METHODS (BY TYPE)

Town	Type of methods							
	Condom		Diaphragm		Spermicidal		Safe period	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trivandrum	28.91	3.87	5.53	2.39	12.88	3.50	28.15	48.07
Quilon	9.83	9.14	7.72	7.69	27.83	28.03	9.41	9.59
Alleppey	20.54	21.78	2.56	....	16.20	15.30	25.43	24.69
Attingal	11.48	10.94	4.74	5.07	25.54	26.02	10.59	10.59
Trichur	6.11	5.49	2.12	3.21	5.28	4.44	2.21	1.87
Palghat	18.5	9.49	5.66	6.68	8.39	11.60	16.00	6.68
Kozhikode	10.36	11.19	9.43	9.68	28.00	25.55	10.68	10.70
Cannanore	11.71	11.36	8.63	8.73	29.72	29.02	11.20	11.56

Table 3—(Contd.)

Town	Types of methods							
	Elementary precaution		Husband sterilisation		Wife sterilisation		Total	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Trivandrum	9.32	1.11	9.33	38.67	5.88	2.39	100	100
Quilon	11.49	12.11	16.89	16.72	16.83	16.72	100	100
Alleppey	16.86	8.14	10.84	13.20	7.57	16.89	100	100
Attingal	17.35	17.73	13.79	13.61	16.31	16.04	100	100
Trichur	3.09	2.13	52.83	50.98	28.36	31.88	100	100
Palghat	8.33	7.20	26.42	7.73	17.05	50.62	100	100
Kozhikode	20.14	19.40	11.01	12.25	10.38	11.23	100	100
Cannanore	17.60	17.73	10.74	11.01	10.40	10.59	100	100

Source: D.R.C., Trivandrum, Report on K.A.P. Survey 1958, Volumes I to VIII.

Table 4

K.A.P. SURVEY 1958—PERCENTAGE DISTRIBUTION OF HUSBANDS ACCORDING TO TIME OF OBTAINING KNOWLEDGE OF FAMILY PLANNING METHODS

Description of time period	Percentage according to time of obtaining knowledge							
	Trivandrum	Quilon	Alleppey	Attingal	Trichur	Palghat	Kozhikode	Cannanore
1. Before marriage while studying	15.03	11.99	29.21	5.04	2.17	20.23	28.86	6.86
2. Before marriage after stopping studies	26.64	10.39	16.75	25.79	48.34	18.93	11.31	5.71
3. After marriage but before the first termination	20.01	32.87	33.38	16.80	26.46	11.71	52.91	5.82
4. Between 1st and 2nd terminations	18.30	12.21	5.33	10.59	10.40	2.93	6.29	22.34
5. Between 2nd and 3rd terminations	5.68	5.30	7.13	8.98	7.17	2.08	....	7.55
6. Between 3rd and 4th terminations	8.82	8.93	6.04	9.54	1.63	6.24	....	8.57
7. Between 4th and 5th terminations	2.09	6.53	1.05	8.98	....	1.04	0.63	8.34
8. After 5th termination	2.81	11.78	1.11	14.19	....	32.66	....	31.04
9. Not recorded	0.62	....	....	0.09	3.83	4.17	....	3.77
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: D.R.C., Trivandrum, Report on K.A.P. Survey 1958, Volumes I to VIII.

Table 5

K·A·P· SURVEY 1958—PERCENTAGE DISTRIBUTION OF COUPLES ACCORDING TO TIME OF PRACTISING CONTRACEPTION

Description of time period	Percentage according to time of practising contraception							
	Trivandrum	Quilon	Alleppey	Attingal	Trichur	Palghat	Kozhikode	Cannanore
1. Before marriage while studying	....	....	....	....	....	....	....	....
2. Before marriage after stopping studies	....	....	....	....	....	....	....	....
3. After marriage but before the first termination	4.42	7.02	1.11	1.08	1.40	28.05	....	0.91
4. Between 1st and 2nd terminations	17.20	22.68	6.29	1.36	0.28	10.33	1.86	4.00
5. Between 2nd and 3rd terminations	3.33	21.43	4.33	0.53	0.28	2.21	1.54	0.17
6. Between 3rd and 4th terminations	4.18	4.61	2.00	0.80	....	2.21	0.63	1.09
7. Between 4th and 5th terminations	0.92	6.22	2.74	2.17	1.34	....	0.63	0.80
8. After 5th termination	3.52	37.75	3.52	2.25	1.34	50.19	6.28	2.51
9. Not recorded	4.30	0.29	....	....	2.47	7.01	....	0.34
10. Never practised	62.13	....	80.01	91.81	92.89	....	89.06	90.18
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: D·R·C·, Trivandrum Report on K·A·P· Survey 1958, Volumes I to VIII.

Table 6

K. A. P. SURVEY 1958—PERCENTAGE DISTRIBUTION OF PERSONS ACCORDING TO REASONS FOR DELAY IN PRACTISING FAMILY PLANNING METHODS

Reasons for delay	Trivandrum		Quilon		Alleppey		Attungal		Trichur	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. Relations or traditional objections to using the method	14.69	14.50	....	....	2.24	2.48	7.11	6.25
2. Religious or traditional objections of spouse	5.86	5.79	1.07	....	....	....	....	....
3. Botheration or lack of privacy	0.79	0.78	....	....	....	....	....	....
4. Doubtful of the effectiveness	2.64	2.60	....	....	2.11	2.35	10.27	15.54
5. Injury to health or fecundity	0.86	0.85	....	....	....	....	....	....
6. Question of family limitation or spacing not yet arisen	54.08	53.38	25.22	29.24	66.83	66.94	17.25	29.39
7. Other reasons	0.58	1.31	3.39	3.22	2.08	....	....
8. Not recorded	21.08	21.52	72.40	67.37	25.60	26.15	65.37	48.82
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 6—(Contd.)

Reasons for delay	Palghat		Malappuram		Kozhikode		Cannanore	
	Husband	Wife	Husband	Wife	Husband	Wife	Husband	Wife
(1)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1. Relations or traditional objections to using the method	2.96	1.73	....	....	....	....	....	....
2. Religious or traditional objections of spouse	....	....	....	....	....	....	3.49	3.43
3. Botheration or lack of privacy	33.50	....	....	....	57.45	....	....	....
4. Doubtful of the effectiveness	....	....	....	....	11.49	9.00	....	....
5. Injury to health or facundity	....	....	....	....	....	....	....	....
6. Question of family limitation or spacing not yet arisen	7.88	14.45	....	....	5.74	49.50	15.70	15.42
7. Other reasons	15.27	....	....	....	5.74	4.50	....	....
8. Not recorded	40.39	83.82	....	....	19.58	37.00	80.81	81.15
Total	100.00	100.00	....	....	100.00	100.00	100.00	100.00

*Source: D.R.C., Trivandrum, Report on K.A.P. Survey 1958, Volumes I to VIII

Table 7

K·A·P· SURVEY 1958—PERCENTAGE DISTRIBUTION OF HUSBANDS ACCORDING TO REASON FOR NOT PRACTISING ANY METHOD THOUGH KNOWN

Reason for not practising	Percentage of husbands							
	Trivandrum	Quilon	Alleppey	Attingal	Trichur	Palghat	Kozhikode	Cannanore
1. Felt not effective	35.12	3.41	22.27	0.54	1.35	2.20	....	0.51
2. Cannot afford	14.49	1.17	8.23	1.25	....	53.54	....	1.14
3. Application difficult or troublesome	5.32	3.04	....	7.75	....	2.93	....	5.07
4. Interferes with enjoyment	2.07	0.37	2.61	0.67	....	4.65	....	1.39
5. Deleterious effect on health or facundity	2.07	3.54	4.18	3.25	0.41	1.47	3.92	....
6. More preferred method already being used	....	1.48	1.25	5.51	....	2.20	....	....
7. Other reasons	35.28	0.13	55.67	15.96	....	31.54	....	77.82
8. Not recorded	5.65	86.86	5.79	65.07	98.24	1.47	96.08	14.07
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: D·R·C., Trivandrum, Report on K·A·P· Survey 1958, Volumes I to VIII.

Table 8
K.A.P. SURVEY 1972—AGE AND KNOWLEDGE OF FAMILY WELFARE METHODS
(% DISTRIBUTION) (MALE)

	Have you heard of any means of preventing births													
	20-24		25-29		30-34		35-39		40-44		45+		Total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	100	....	100	....	97.6	2.4	100	....	100	....	100	....	99.6	0.4
Attingal	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Quilon	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Alleppey	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Kottayam	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Ernakulam	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Trichur	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Palghat	100	....	100	....	100	....	100	....	100	....	100	....	100	....
Kozhikode	100	....	100	....	100	....	100	....	100	....	100	....	99.4	0.6
Cannanore	100	....	100	....	92.1	7.9	100	....	84.3	15.7	86.96	13.04	90.9	9.1

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 8 (a)

K.A.P. SURVEY 1972—AGE AND KNOWLEDGE OF FAMILY WELFARE METHODS
(% DISTRIBUTION) (FEMALE)

	Have you heard of any means of preventing births							
	20-24		25-29		30-34		35-39	
	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	100.00	....	100.00	....	100.00	....	100.0	....
Attingal	100.00	....	100.00	....	100.00	....	100.0	....
Quilon	100.00	....	100.00	....	100.00	....	100.0	....
Alleppey	99.40	0.60	100.00	....	100.00	....	95.87	4.13
Kottayam	100.00	....	100.00	....	100.00	....	....	....
Ermakulam	100.00	....	100.00	....	100.00	....	....	....
Tri chur	96.56	3.44	94.41	5.59	96.56	3.44	100.0	....
Palghat	96.56	3.44	99.2	0.8	99.2	0.8	99.3	0.7
Kozhikode	100.00	....	100.00	....	100.00	....	100.0	....
Cannanore	93.42	6.58	92.68	7.32	92.45	7.55	85.82	4.18

Table 8 (a)–(Contd.)

	Have you heard of any means of preventing births					
	40–44		45+		Total	
	Yes	No	Yes	No	Yes	No
Trivandrum	100.00	....	100.0	....	100.0	....
Attingal	100.00	....	Nil	....	100.0	....
Quilon	100.00	....	100.00	....	100.0	....
Alleppey	100.00	....	....	100.0	98.81	1.19
Kottayam	100.00	....	100.0	....	100.0	....
Ernakulam	100.00	....	100.0	....	100.0	....
Trichur	100.00	....	100.0	....	98.05	1.95
Palghat	96.3	3.7	100.0	....	97.71	2.29
Kozhikode	100.00	....	100.0	....	100.0	....
Cannanore	79.31	20.69	Nil	Nil	89.87	10.13

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 9

K·A·P· SURVEY 1972—EDUCATION AND KNOWLEDGE OF FAMILY WELFARE METHODS
(% DISTRIBUTION) (MALE)

	Have you heard of any means of preventing births									
	Illiterate		Literate below primary		Above primary below matric		Matric and above		Total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	100.0	....	100.0	....	98.6	1.4	100.0	....	99.6	0.4
Attingal	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Quilon	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Alleppey	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Kottayam	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Ernakulam	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Trichur	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Palghat	100.0	....	100.0	....	100.0	....	100.0	....	100.0	....
Kozhikode	100.0	....	99.18	0.82	99.47	0.53	99.43	0.57	99.4	0.6
Cannanore	77.2	22.8	87.5	12.5	94.2	5.8	97.9	2.1	90.9	9.1

Source: D·R·C., Trivandrum—Data from K·A·P· Survey 1972 (unpublished)

Table 9 (a)

K·A·P· SURVEY 1972—EDUCATION AND KNOWLEDGE OF FAMILY WELFARE METHODS
(% DISTRIBUTION) (FEMALE)

	Have you heard of any means of preventing births							
	Illiterate		Literate below primary		Above primary below matric		Total	
	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	100.0	....	100.0	....	100.0	....	100.0	....
Attingal	100.0	....	100.0	....	100.0	....	100.0	....
Quilon	100.0	....	100.0	....	100.0	....	100.0	....
Alleppey	100.0	....	97.47	2.53	99.39	0.61	98.81	1.19
Kottayam	100.0	....	100.0	....	100.0	....	100.0	....
Ernakulam	100.0	....	100.0	....	100.0	....	100.0	....
Trichur	89.42	10.58	97.76	2.24	98.39	1.61	98.05	1.95
Palghat	94.55	5.45	98.04	1.96	98.98	1.02	97.71	2.29
Kozhikode	100.0	....	100.0	....	100.0	....	100.00	....
Cannanore	97.20	2.80	99.20	0.80	98.50	1.50	99.00	1.00

Source: D·R·C., Trivandrum—Data from K·A·P· Survey 1972 (unpublished).

Table 10

**K·A·P· SURVEY 1972—RELIGION AND KNOWLEDGE OF FAMILY WELFARE METHODS
(% DISTRIBUTION) (MALE)**

	Have you heard of any means of preventing births							
	Hindus		Christians		Muslims		Total	
	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	99.47	0.53	100.0	....	100.0	....	99.6	0.4
Attingal	100.0	....	100.0	....	100.0	....	100.0	....
Quilon	100.0	....	100.0	....	100.0	....	100.0	....
Alleppey	100.0	....	100.0	....	100.0	....	100.0	....
Kottayam	100.0	....	100.0	....	100.0	....	100.0	....
Ernakulam	100.0	....	100.0	....	100.0	....	100.0	....
Trichur	100.0	....	100.0	....	100.0	....	100.0	....
Palghat	100.0	....	100.0	....	100.0	....	100.0	....
Kozhikode	99.35	0.65	100.0	....	99.36	0.64	99.40	0.60
Cannanore	100.0	....	100.0	....	84.28	15.72	90.9	9.1

Source: D·R·C., Trivandrum—Data from K·A·P· Survey 1972 (unpublished).

Table 10(a)

K·A·P· SURVEY 1972—RELIGION AND KNOWLEDGE OF FAMILY WELFARE METHODS
(% DISTRIBUTION) (FEMALE)

	Have you heard of any means of preventing births							
	Hindus		Christians		Muslims		Total	
	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	100.0	....	100.0	....	100.0	....	100.0	....
Attungal	100.0	....	100.0	....	100.0	....	100.0	....
Quilon	100.0	....	100.0	....	100.0	....	100.0	....
Alleppey	100.0	....	95.69	4.31	100.0	....	98.81	1.19
Kottayam	100.0	....	100.0	....	100.0	....	100.0	....
Ernakulam	100.0	....	100.0	....	100.0	....	100.0	....
Trichur	100.0	....	96.26	3.74	100.0	....	98.05	1.95
Palghat	97.14	2.86	100.0	....	98.61	1.39	97.71	2.29
Kozhikode	100.0	....	100.0	....	100.0	....	100.0	....
Cannanore	94.63	5.37	100.0	....	85.72	14.28	89.87	10.13

Source: D·R·C· Trivandrum—Data from K·A·P· Survey 1972 (unpublished).

Table 11

K.A.P. SURVEY 1972—PERCENTAGE DISTRIBUTION BY SOURCE OF KNOWLEDGE (MALE)

	Source									Total
	Books and pamphlets	Doctors	Health visitors	Social workers	Friends	Radio	Spouse	News-paper	Others	
Trivandrum	28.35	19.12	7.80	....	33.08	10.09	1.56	....	....	100.00
Attingal	34.13	1.26	35.34	0.05	21.22	8.00	....	....	....	100.00
Quilon	61.05	2.00	11.14	....	8.48	15.71	1.62	....	....	100.00
Alleppey	22.75	11.45	13.17	....	50.49	2.04	0.10	....	....	100.00
Kottayam	28.48	21.19	....	3.13	26.90	20.30	....	....	....	100.00
Ernakulam	42.17	8.06	5.77	....	23.35	20.65	....	....	....	100.00
Trichur	43.33	14.00	0.67	1.80	32.29	2.72	0.61	....	4.58	100.00
Falghat	15.98	6.02	8.00	....	70.00	....	....	....	....	100.00
Kozhikode	14.58	15.14	1.32	0.94	20.80	16.61	....	29.48	1.13	100.00
Cannanore	13.77	23.66	2.81	54.55	5.21	....	....	....	....	100.00

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 11(a)

K·A·P· SURVEY 1972—PERCENTAGE DISTRIBUTION BY SOURCE OF KNOWLEDGE (FEMALE)

	Source								Total
	Book sand pamphlets	Doctors	Health visitors	Social workers	Friends	Radio	Spouse	Others	
Trivandrum	13.27	40.51	15.17	1.05	21.72	5.42	2.86	....	100.00
Attingal	4.90	37.54	18.11	....	33.98	5.31	0.16	....	100.00
Quilon	42.49	19.79	5.21	0.61	7.36	12.73	11.81	....	100.00
Alleppey	9.97	24.87	23.13	....	26.88	2.20	12.95	....	100.00
Kottayam	27.04	19.91	....	....	21.96	21.00	10.09	....	100.00
Ernakulam	35.85	10.72	5.60	0.63	28.43	18.77	....	....	100.00
Trichur	4.86	2.72	0.43	8.03	80.10	0.82	3.04	....	100.00
Palghat	2.04	25.98	10.48	30.16	14.84	1.13	11.49	3.88	100.00
Kozhikode	16.12	18.38	....	1.69	32.26	5.90	25.65	....	100.00
Cananore	23.37	12.28	....	....	22.11	41.42	0.82	....	100.00

Source: D·R·C·, Trivandrum—Data from K·A·P· Survey 1972 (unpublished).

Table 12

K·A·P SURVEY 1972—PERCENTAGE DISTRIBUTION OF PERSONS BY AGE AND ATTITUDE
TO FAMILY WELFARE (MALE)

	Do you approve of any method to prevent pregnancy							
	15-19		20-24		25-29		30-34	
	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trivandrum	84.6	15.4	77.2	22.8	85.6	14.4
Attingal	73.7	26.3	74.6	25.4	77.4	22.6
Quilon	75.0	25.0	73.0	27.0
Alleppey	68.2	31.8	75.7	24.3	79.1	20.9
Kottayam	63.6	36.4	85.8	14.2	79.7	20.3
Ernakulam	58.4	41.6	71.9	28.1	83.0	17.0
Trichur	90.0	10.0	93.31	6.69
Palghat	80.0	20.0	75.86	24.14	84.91	15.09
Kozhikode	70.54	29.46	77.74	22.26	90.86	9.14
Cannanore	60.00	40.0	45.1	54.9	42.6	57.4

Table 12 (Contd.)

	Do you approve of any method to prevent pregnancy							
	35-39		40-44		45 and above		Total	
	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved
	(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Trivandrum	86.5	13.5	89.8	10.2	86.9	13.1	86.2	13.8
Attingal	77.7	22.3	78.8	21.2	85.9	14.1	78.0	22.0
Quilon	84.6	15.4	77.5	22.5	74.1	25.9	76.5	23.5
Alleppey	81.1	18.9	77.4	22.6	76.1	23.9	76.5	23.5
Kottayam	81.2	18.8	69.7	30.3	74.0	26.0	76.8	23.2
Ernakulam	82.3	17.7	83.2	16.8	78.1	21.9	79.3	20.7
Trichur	90.33	9.67	89.16	10.84	87.44	12.56	89.9	10.1
Palghat	63.33	36.67	61.70	38.30	54.55	45.45	66.0	34.0
Kozhikode	85.41	14.59	86.25	13.75	57.19	42.81	86.3	13.7
Cannanore	33.4	66.6	47.7	52.3	16.8	83.2	31.6	68.4

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 12 (a)

K.A.P SURVEY 1972—PERCENTAGE DISTRIBUTION OF PERSONS BY AGE AND ATTITUDE
TO FAMILY WELFARE (FEMALE)

	Do you approve of any method to prevent pregnancy							
	15-19		20-24		25-29		30-34	
	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trivandrum	37.3	62.7	49.0	51.0	52.7	47.3	48.9	51.1
Attingal	72.0	28.0	66.9	33.1	71.8	28.2	71.1	28.9
Quilon	....	....	73.2	26.8	76.0	24.0	76.3	23.7
Alleppey	72.3	27.7	88.6	11.4	82.1	17.9	78.7	21.3
Kottayam	62.2	37.8	71.3	28.7	77.2	22.8	70.4	29.6
Ernakulam	52.3	47.7	67.7	32.3	71.7	28.3	69.6	30.4
Trichur	35.6	64.4	49.2	50.8	50.9	49.1	55.9	44.1
Palghat	63.6	36.4	69.8	30.2	74.0	26.0	83.7	16.3
Kozhikode	82.6	17.4	94.9	5.1	93.9	6.1	91.1	8.9
Cannanore	52.3	47.7	57.2	42.8	50.0	50.0	58.5	41.5

Table 12 (a)—(Contd.)

	Do you approve of any method to prevent pregnancy							
	35-39		40-44		45 and above		Total	
	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved	Approved	Disapproved
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Trivandrum	57.6	42.4	53.6	46.4	....	100.00	51.6	48.4
Attingal	78.9	21.1	60.7	39.3	100.00	....	71.0	29.0
Quilon	96.2	3.8	86.8	13.2	....	100.00	68.3	31.7
Alleppey	70.9	29.1	29.9	70.1	....	100.00	72.2	27.8
Kottayam	69.6	30.4	69.2	30.8	....	....	71.3	28.7
Ernakulam	71.1	28.9	62.3	37.7	....	....	68.5	31.5
Trichur	63.8	36.2	74.3	25.7	78.1	21.9	60.2	39.8
Palghat	67.8	32.2	75.0	25.0	25.0	75.0	72.5	27.5
Kozhikode	92.1	7.9	91.9	8.1	100.0	....	92.1	7.9
Cannanore	55.8	44.2	57.2	42.8	....	....	57.8	42.2

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 13

K.A.P. SURVEY 1972—PERCENTAGE DISTRIBUTION OF PERSONS BY EDUCATIONAL STATUS
AND ATTITUDE TO FAMILY WELFARE (MALE)

	Do you agree to any method to prevent pregnancy									
	Illiterate		Below primary		Above primary and below matric		Matric and above		Total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	47.47	52.53	84.69	15.31	88.12	11.88	90.65	6.35	86.2	13.8
Attingal	75.4	24.6	75.1	24.9	80.9	19.1	80.1	19.9	78.0	22.0
Quilon	....	....	72.9	27.1	79.3	20.7	74.1	25.9	76.5	23.5
Alleppey	36.1	63.9	79.1	20.9	82.2	17.8	90.3	9.70	76.5	23.5
Kottayam	66.7	33.3	83.2	16.8	84.4	15.6	63.4	36.6	76.8	23.2
Ernakulam	72.3	27.7	79.0	21.0	79.5	20.5	80.5	19.5	79.3	20.7
Trichur	100.0	....	84.5	15.5	89.8	10.2	93.4	6.6	89.9	10.1
Palghat	20.0	80.0	47.4	52.6	57.9	42.1	88.0	12.0	66.0	34.0
Kozhikode	87.4	12.6	81.0	19.0	89.7	10.3	89.5	10.5	86.3	13.7
Cannanore	19.3	80.7	25.9	74.1	29.4	70.6	47.4	52.6	31.6	68.4

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 13(a)

K·A·P· SURVEY 1972—PERCENTAGE DISTRIBUTION OF PERSONS BY EDUCATIONAL STATUS AND ATTITUDE TO FAMILY WELFARE (FEMALE)

	Do you agree to any method to prevent pregnancy									
	Illiterate		Literate below primary		Above primary and below matric		Matric and above		Total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	59.4	40.6	53.7	46.3	46.0	54.0	52.6	47.4	51.6	48.4
Attungal	50.0	50.0	75.0	25.0	70.3	29.7	78.6	21.4	71.0	29.0
Quilon	34.3	65.7	78.1	21.9	50.8	49.2	90.4	9.6	68.3	31.7
Alleppey	48.9	51.1	70.8	29.2	97.1	2.9	89.0	11.0	72.2	27.8
Koottayam	53.1	46.9	67.2	32.8	72.2	27.8	75.9	24.1	71.3	28.7
Ernakulam	81.2	18.8	69.6	30.4	65.6	34.4	63.7	36.3	68.5	31.5
Trichur	69.0	31.0	61.6	38.4	51.1	48.9	73.8	26.2	60.2	39.8
Palghat	63.6	36.4	60.8	39.2	79.6	20.4	79.3	20.7	72.5	27.5
Kozhikode	81.7	18.3	90.7	9.3	93.7	6.3	99.3	0.7	92.1	7.9
Cannanore	49.5	50.5	54.7	45.3	51.5	48.5	70.8	29.2	57.8	42.2

Source: D·R·C·, Trivandrum—Data from K·A·P· Survey 1972 (unpublished).

Table 14

K·A·P· SURVEY 1972—RELIGION AND ATTITUDE TO FAMILY WELFARE
(% DISTRIBUTION) (MALE)

	Do you approve of any method to prevent pregnancy							
	Hindu		Christian		Muslim		Total	
	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	93.8	6.2	74.5	25.5	51.3	48.7	86.2	13.8
Attungal	77.9	22.1	100.0	....	78.3	21.7	78.0	22.0
Quilon	76.2	23.8	76.2	23.8	54.5	45.5	76.5	23.5
Alleppey	92.2	7.8	96.2	3.8	79.5	20.5	76.5	23.5
Kottayam	83.1	16.9	70.8	29.2	82.0	18.0	76.8	23.2
Ernakulam	80.8	19.2	77.9	22.1	77.6	22.4	79.3	20.7
Trichur	97.0	3.0	86.0	14.0	77.6	22.4	89.9	10.1
Palghat	76.7	23.3	93.3	6.7	32.4	67.6	66.0	34.0
Kozhikode	96.0	4.0	89.1	10.9	71.8	28.2	86.3	13.7
Cannanore	44.4	55.6	63.8	36.2	20.8	79.2	31.6	68.4

Source: D·R·C·, Trivandrum—Data from K·A·P Survey 1972 (unpublished).

Table 11(a)

K.A.P. SURVEY 1972—RELIGION AND ATTITUDE TO FAMILY WELFARE
(% DISTRIBUTION) (FEMALE)

	Do you approve of any method to prevent pregnancy							
	Hindu		Christian		Muslim		Total	
	Yes	No	Yes	No	Yes	No	Yes	No
Trivandrum	50.6	49.4	68.8	31.2	43.5	56.5	51.6	48.4
Attingal	75.5	24.5	100.0	....	52.3	47.7	71.0	29.0
Quilon	73.6	26.4	42.9	57.1	78.9	21.1	68.3	31.7
Alleppey	89.9	10.1	65.1	34.9	51.4	48.6	72.2	27.8
Kottayam	68.2	31.2	74.5	25.5	64.7	35.3	71.3	28.7
Ernakulam	72.0	28.0	66.2	33.8	58.9	41.1	68.5	31.5
Trichur	75.6	24.4	46.6	53.4	70.5	29.5	60.2	39.8
Palghat	76.6	23.4	80.0	20.0	61.1	38.9	72.5	27.5
Kozhikode	99.5	0.5	96.4	3.6	81.3	18.7	92.1	7.9
Cannanore	69.9	30.1	49.6	50.4	46.5	53.5	57.8	42.2

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished)

Table 15

K·A·P SURVEY 1972—AGE AND EXTENT OF FAMILY WELFARE PRACTICE (%) (MALE)

	Age group						Total
	20—24	25—29	30—34	35—39	40—44	45+	
Trivandrum	67.7	61.0	59.4	59.4	57.2	52.2	57.4
Attingal	....	49.1	44.9	21.3	41.9	31.7	37.4
Quilon	....	....	26.7	41.0	45.0	15.7	27.0
Alleppey	54.4	34.7	47.4	42.5	42.1	24.9	37.0
Kottayam	50.0	15.9	61.8	43.4	47.4	35.5	40.5
Ernakulam	....	8.6	69.8	54.0	51.0	69.8	54.8
Trichur	37.5	27.4	39.5	49.9	32.0	....	38.7
Palghat	38.0	61.5	47.4	46.3	54.9	42.8	48.4
Kozhikode	78.2	31.2	28.6	36.8	57.9	39.7	38.4
Cannanore	29.8	45.1	30.8	22.7	47.7	16.8	27.0

Source: D·R·C·, Trivandrum—Data from K·A·P Survey 1972 (unpublished).

Table 15(a)

K·A·P· SURVEY 1972—AGE AND EXTENT OF FAMILY WELFARE PRACTICE (%) (FEMALE)

	Age group						Total
	20-24	25-29	30-34	35-39	40-44	45+	
Trivandrum	58.6	61.4	45.8	45.4	4.5	....	50.7
Attingal	39.9	41.6	41.9	46.7	52.3	....	43.7
Quilon	12.2	16.0	30.5	28.3	36.8	33.3	24.8
Alleppey	31.5	35.5	42.8	37.5	30.3	....	36.0
Kottayam	19.5	40.5	45.2	35.1	43.9	....	34.9
Ernakulam	19.4	46.2	71.8	65.4	69.2	....	48.5
Trichur	19.5	27.3	33.3	44.1	40.7	26.0	33.3
Palghat	28.6	31.2	43.0	36.7	19.3	....	31.1
Kozhikode	28.7	33.2	54.5	52.5	38.3	50.0	37.4
Cannanore	18.3	26.2	22.4	16.3	13.3	....	20.5

Source:—D·R·C·, Trivandrum—Data from K·A·P· Survey 1972 (unpublished).

Table 16**K·A·P· SURVEY 1972—EDUCATIONAL STATUS AND
EXTENT OF FAMILY WELFARE PRACTICE (%) (MALE)**

Town	Educational status				Total
	Illiterate	Literate below primary	Above primary below matric	Matric and above	
Trivandrum	27.9	54.8	50.3	67.8	57.4
Attingal	38.3	49.9	26.8	41.3	37.4
Quilon	....	20.0	45.7	29.6	27.0
Alleppey	36.1	31.7	33.3	50.7	37.0
Kottayam	33.3	33.4	29.8	59.6	40.5
Ernakulam	23.2	50.6	57.0	62.0	54.8
Trichur	28.6	33.9	28.1	56.0	38.7
Palghat	11.2	32.7	56.5	56.2	48.4
Kozhikode	23.8	29.2	43.9	44.0	38.4
Cannanore	10.5	17.7	26.9	47.4	27.0

Source: D·R·C·, Trivandrum—Data from K·A·P· Survey 1972
(unpublished).

Table 16(a)**K·A·P· SURVEY 1972—EDUCATIONAL STATUS AND EXTENT OF
FAMILY WELFARE PRACTICE (%) (FEMALE)**

Town	Educational status				Total
	Illiterate	Literate below primary	Above primary below matric	Matric and above	
Trivandrum	29.7	46.5	50.6	62.9	50.7
Attingal	46.8	40.9	43.0	61.7	43.7
Quilon	8.6	23.3	23.1	35.6	24.8
Alleppey	30.1	39.6	34.0	39.3	36.0
Kottayam	23.4	30.5	34.2	41.8	34.9
Ernakulam	55.5	42.8	43.5	56.4	48.5
Trichur	47.8	24.2	31.3	42.8	33.3
Palghat	18.2	29.2	39.2	43.9	31.1
Kozhikode	29.5	34.6	37.2	47.8	37.4
Cannanore	3.0	11.2	30.0	45.7	20.5

Source: D·R·C·, Trivandrum—Data from K·A·P· Survey 1972
(unpublished).

Table 17

**K·A·P. SURVEY 1972—RELIGION AND EXTENT OF
FAMILY WELFARE PRACTICE (%) (MALE)**

	Religion			
	Hindus	Christians	Muslims	Total
Trivandrum	62.6	49.4	33.4	57.4
Attingal	39.3	100.0	24.7	37.4
Quilon	29.2	10.8	36.4	27.0
Alleppey	42.9	34.3	29.7	37.0
Kottayam	43.2	40.1	24.4	40.5
Ernakulam:	54.2	58.0	40.8	54.8
Trichur	39.9	38.3	33.2	38.7
Palghat	55.7	56.2	27.9	48.4
Kozhikode	44.1	52.2	27.6	38.4
Cannanore	38.0	63.8	16.9	27.0

Source: D·R·C., Trivandrum—Data from K·A·P. Survey 1972 (unpublished).

Table 17(a)

**K·A·P SURVEY 1972—RELIGION AND EXTENT OF
FAMILY WELFARE PRACTICE (%) (FEMALE)**

	Religion			
	Hindus	Christians	Muslims	Total
Trivandrum	52.8	49.0	38.2	50.7
Attingal	45.6	....	35.4	43.7
Quilon	25.8	14.3	34.2	24.8
Alleppey	44.2	29.3	29.8	36.0
Kottayam	35.5	34.7	31.1	34.9
Ernakulam	47.5	51.3	38.8	48.5
Trichur	44.3	23.1	45.8	33.3
Palghat	36.3	48.2	17.2	31.1
Kozhikode	44.4	55.6	25.0	37.4
Cannanore	37.5	9.9	10.6	20.5

Source: D·R·C., Trivandrum—Data from K·A·P. Survey 1972 (unpublished).

Table 18

K.A.P. SURVEY 1972—IDEAL No. OF CHILDREN FOR A COUPLE (% DISTRIBUTION) (MALE)

	Children								Total
	0	1	2	3	4	5	6	7+	
Trivandrum	26.43	43.00	27.29	3.10	0.18	....	100.00
Attingal	0.21	8.02	90.89	0.41	0.26	0.21	....	100.00
Quilon	14.0	83.5	1.0	1.0	....	0.5	100.00
Alleppey	14.98	65.84	16.56	2.62	....	....	100.00
Kottayam	0.59	14.74	54.77	28.14	1.76	....	....	100.00
Ernakulam	40.28	51.05	8.06	0.61	....	....	100.00
Trichur	0.87	25.85	36.70	21.70	6.73	4.88	3.27	100.00
Palghat	48.07	38.72	11.85	1.36	....	....	100.00
Kozhikode	18.32	56.56	18.93	4.89	0.80	0.50	100.00
Cannanore	1.22	15.54	58.34	20.10	4.80	....	100.00

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Table 18(a)

K.A.P. SURVEY 1972—IDEAL No. OF CHILDREN FOR A COUPLE (% DISTRIBUTION) (FEMALE)

	Children								Total
	0	1	2	3	4	5	6	7+	
Trivandrum	26.06	46.00	22.93	4.83	0.18	....	100.00
Attingal	27.19	66.87	5.94	....	....	....	100.00
Quilon	0.41	12.60	68.70	13.00	2.44	2.85	....	100.00
Alleppey	0.22	19.84	63.92	13.12	1.63	0.11	1.16	100.00
Kottayam	0.56	12.21	53.14	32.82	1.27	....	....	100.00
Ernakulam	0.66	43.07	39.82	12.36	2.57	1.12	0.40	100.00
Trichur	13.94	52.30	29.43	3.87	....	0.46	100.00
Palghat	1.17	7.61	28.23	19.15	30.19	5.24	8.41	100.00
Kozhikode	0.48	22.77	49.66	26.55	0.54	....	....	100.00
Cannanore	1.05	18.58	66.36	12.47	1.10	0.44	100.00

Source: D.R.C., Trivandrum—Data from K.A.P. Survey 1972 (unpublished).

Appendix C—Table 1

PERCENTAGE DISTRIBUTION OF VASECTOMISED PERSONS ACCORDING TO
AGE 1957-67 TO 1973-74.

Year	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45 and above	
1957-67	....	0.40	7.70	23.50	30.70	37.70	....	100
1967-68	....	0.60	9.30	21.60	28.60	21.20	18.70	100
1968-69	....	0.70	10.40	21.80	27.60	20.60	18.90	100
1969-70	....	1.00	12.20	23.10	28.10	18.50	17.10	100
1970-71	0.09	2.11	16.08	24.28	27.10	16.45	13.89	100
1971-72	....	1.63	17.12	25.58	29.02	15.24	11.41	100
1972-73	....	1.99	19.37	27.79	27.63	14.49	8.73	100
1973-74	....	1.61	19.92	27.55	27.95	15.42	7.85	100
Average	0.01	1.25	14.01	24.37	28.34	19.95	12.07	100

Source: D.R.C., Trivandrum—Reports on the characteristics of sterilised persons.

Table 2

PERCENTAGE DISTRIBUTION OF TUBECTOMISED PERSONS ACCORDING TO AGE
1957-67 TO 1973-74

Year	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-45	45 and above	
1957-67	0.10	9.70	34.70	32.10	19.10	4.30	....	100
1967-68	0.30	12.20	37.10	29.90	16.80	3.20	0.50	100
1968-69	0.30	13.80	35.90	29.70	17.20	2.70	0.50	100
1969-70	0.30	15.20	38.40	28.10	15.20	2.40	0.40	100
1970-71	0.13	17.66	38.30	26.76	14.13	2.42	0.61	100
1971-72	0.47	17.95	37.86	26.29	14.70	2.37	0.36	100
1972-73	0.44	19.31	40.88	24.30	12.84	1.95	0.28	100
1973-74	0.43	23.09	43.14	21.09	10.55	1.52	0.18	100
Average	0.30	16.11	38.29	27.28	15.07	2.61	0.34	100

Source: Same as for Appendix C, Table 1.

Table 3

PERCENTAGE DISTRIBUTION OF STERILISED PERSONS BY NO. OF LIVING CHILDREN

Year	Number of living children										Total
	1	2	3	4	5	6	7	8	9	10 and above	
1956-61	0.3	4.7	19.9	26.4	22.8	13.7	7.4	3.2	1.3	0.3	100.00
1961-62	0.9	5.3	20.6	24.5	22.1	14.8	6.9	3.2	1.1	0.6	100.00
1962-63	0.5	6.9	23.0	26.0	19.7	12.4	6.7	3.1	1.1	0.6	100.00
1963-64	0.4	6.6	25.4	25.3	19.9	11.8	6.2	2.6	0.9	0.4	100.00
1964-65	0.5	6.3	28.0	25.5	18.8	11.5	5.7	2.3	0.9	0.5	100.00
1965-66	0.7	8.7	27.4	24.9	18.3	11.2	5.0	2.6	0.9	0.3	100.00
1966-67	0.9	12.1	26.1	23.5	17.5	10.8	5.4	2.5	0.8	0.4	100.00
1967-68	0.9	14.9	26.9	22.7	16.2	10.0	5.0	2.2	0.8	0.4	100.00
1968-69	1.0	17.7	26.7	22.3	15.4	9.4	4.6	1.9	0.7	0.3	100.00
1969-70	0.9	17.8	27.8	22.3	15.5	8.5	4.2	1.9	0.7	0.3	100.00
1970-71	1.2	19.5	28.7	22.3	14.1	7.8	3.9	1.6	0.6	0.3	100.00
1971-72	1.4	18.5	31.5	22.0	13.0	7.5	3.6	1.4	0.7	0.4	100.00
1972-73	1.3	17.6	33.7	22.8	12.3	6.8	3.2	1.5	0.5	0.3	100.00
1973-74	1.4	19.2	34.8	22.1	11.7	5.9	2.9	1.3	0.4	0.3	100.00

Source: Same as for Appendix C, Table 1.

Table 4

PERCENTAGE DISTRIBUTION OF STERILISED PERSONS BY EDUCATIONAL STATUS

Year	Educational status						Total
	Illiterate	Literate below primary	Above primary below middle	Above middle below matric	Matric and above	Literate but not specified	
1957-67	20.3	38.7	25.2	5.9	5.6	4.3	100.0
1967-68	20.8	54.2	16.5	3.3	4.2	1.0	100.0
1968-69	21.1	43.7	23.3	5.0	4.8	2.1	100.0
1969-70	19.6	41.1	26.8	5.4	6.8	0.4	100.0
1970-71	17.7	35.4	26.9	6.9	7.7	5.4	100.0
1971-72	15.37	33.39	28.49	10.00	10.39	2.36	100.0
1972-73	7.42	33.13	31.57	9.97	15.42	2.49	100.0
1973-74	9.92	27.32	33.10	12.23	15.93	1.50	100.0

Source: Same as for Appendix C, Table 1.

Table 5

PERCENTAGE DISTRIBUTION OF STERILISED PERSONS BY MONTHLY INCOME.

Year	Income					Total
	Below Rs. 50	Rs. 50-99	Rs. 100-149	Rs. 150-199	Rs. 200 and above	
1968-69	19.2	66.4	2.0	2.9	2.5	100
1969-70	11.12	71.87	10.14	3.53	3.34	100
1970-71	12.35	64.74	13.62	4.22	5.07	100
1971-72	6.40	71.60	10.07	4.58	7.35	100
1972-73	3.62	75.57	7.35	5.08	8.38	100
1973-74	2.36	75.11	7.75	4.86	9.92	100

Source: Same as for Appendix C, Table 1.

Table 6

PERCENTAGE DISTRIBUTION OF STERILISED PERSONS ACCORDING TO OCCUPATION

Occupation	1956.61		1961.62		1962.63		1963.64		1964.65		1965.66	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cultivators	14.1	20.5	18.6	4.2	18.8	18.6	18.7	18.4	17.6	10.2	11.5	6.7
Agricultural labourers	4.0	2.3	3.8	0.6	1.8	0.4	0.7	0.1	28.1	5.6	20.7	5.3
Traders and businessmen	5.4	9.9	7.7	18.9	6.4	7.7	4.9	7.2	4.8	5.5	3.8	2.6
Other unskilled workers	38.9	39.0	37.8	28.1	37.9	29.4	54.8	29.3	29.5	28.1	44.0	27.6
Skilled workers	14.3	8.2	10.4	4.1	19.4	9.1	7.0	5.2	7.6	3.7	4.3	5.1
Professional workers	4.1	5.5	4.8	8.2	7.6	4.9	1.8	5.6	5.5	5.8	1.9	2.5
Clerical workers	2.4	4.0	2.7	2.6	3.4	2.1	1.4	1.8	1.6	3.3	1.0	1.8
Others	16.6	6.8	13.7	20.3	4.1	24.7	8.0	26.6	4.4	31.9	12.5	43.0
No occupation	0.2	3.8	0.5	13.0	0.6	3.1	2.7	5.8	0.9	5.9	0.3	5.4
N.R.	....	....	....	....	....	....	....	....	....	....	....	....
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6—(contd.)

Occupation	1966.67		1967.68		1968.69		1969.70		1970.71		1971.72	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cultivators	9.0	6.6	13.32	10.02	8.6	8.7	8.60	6.77	9.43	4.84	10.4	6.3
Agricultural labourers	20.8	23.2	6.57	1.99	9.6	7.6	10.45	4.45	12.80	6.04	7.5	4.0
Traders and businessmen	5.4	3.0	5.45	4.85	4.7	5.5	6.12	5.53	5.56	3.53	5.4	3.3
Other unskilled workers	33.5	12.2	57.05	32.18	54.0	45.5	58.29	40.99	47.37	33.50	39.2	17.7
Skilled workers	15.9	2.7	7.63	6.13	13.4	9.5	7.05	10.23	13.37	3.57	5.2	2.0
Professional workers	4.0	4.8	1.27	3.39	1.3	3.3	1.55	3.26	3.41	2.72	3.2	1.4
Clerical workers	1.5	3.2	1.03	1.78	0.9	2.6	2.18	3.35	0.94	1.09	2.8	1.0
Others	9.5	37.0	7.68	39.66	7.4	11.0	5.27	9.36	6.57	33.75	3.7	3.9
No occupation	0.4	7.3	....	....	....	....	....	....	0.55	10.96	22.3	55.2
N.R.	....	....	....	....	0.1	6.3	0.49	16.06	....	....	0.3	5.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Same as for Appendix C, Table 1.

Table 7

PERCENTAGE DISTRIBUTION OF STERILISED PERSONS (MALE AND FEMALE) BY RELIGION

Periods	Percentage of sterilized persons				
	Hindus	Christians	Muslims	Others	Total
1956-61	74.40	20.20	5.00	0.4	100.00
1961-62	74.60	20.20	5.20	....	100.00
1962-63	74.60	19.40	5.80	0.2	100.00
1963-64	72.10	22.30	5.40	0.2	100.00
1964-65	73.00	19.20	7.80	....	100.00
1965-66	74.70	17.60	7.70	....	100.00
1966-67	74.90	17.40	7.70	....	100.00
1967-68	73.90	18.50	7.60	....	100.00
1968-69	73.10	18.20	8.60	0.1	100.00
1969-70	74.30	19.80	7.80	0.1	100.00
1970-71	72.30	19.30	8.40	....	100.00
1971-72	66.95	23.91	9.14	....	100.00
1972-73	70.92	19.44	9.64	....	100.00
1973-74	72.88	16.12	11.00	....	100.00

Source: Same as for Appendix C, Table 1.

Table 8

PERCENTAGE DISTRIBUTION OF I·U·D· ACCEPTORS ACCORDING TO AGE

Year	Age group							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45 and above	
1966-67	1.28	15.52	31.83	27.46	19.10	4.40	0.41	100.00
1967-68	1.68	18.04	32.33	26.47	17.70	3.43	0.35	100.00
1968-69	1.97	20.75	33.65	24.86	15.70	2.78	0.29	100.00
1969-70	2.45	22.09	31.23	25.13	15.75	3.04	0.31	100.00
1970-71	2.76	24.55	33.13	24.46	12.85	2.08	0.17	100.00
1971-72	2.72	26.54	32.43	22.76	13.05	2.09	0.41	100.00
1972-73	3.01	28.06	30.70	21.96	13.39	2.49	0.39	100.00
1973-74	3.13	28.21	32.70	20.88	12.66	2.17	0.25	100.00

Source: D·R·C·, Trivandrum—Report on the Characteristics of I·U·D· Acceptors.

Table 9

PERCENTAGE DISTRIBUTION OF I·U·D· ACCEPTORS ACCORDING TO NUMBER OF LIVING CHILDREN

Year	Number of living children						
	0	1	2	3	4	5	6
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1966.67	0.08	5.03	16.74	22.99	20.16	15.04	9.87
1967.68	0.02	6.35	19.06	24.88	20.60	13.80	8.18
1968.69	0.09	7.99	24.77	27.34	18.46	10.52	6.00
1969.70	0.07	9.04	25.61	27.10	18.08	10.11	5.69
1970.71	0.00	9.73	28.32	28.52	17.04	7.98	4.53
1971.72	....	11.47	28.55	26.27	17.13	8.58	4.23
1972.73	....	13.49	29.30	25.51	15.66	8.38	4.18
1973.74	....	13.54	30.10	24.97	16.13	8.38	4.21

Table 9—(contd.)

Year	Number of living children					Total
	7	8	9	10	11+	
(1)	(9)	(10)	(11)	(12)	(13)	(14)
1966.67	5.74	2.74	0.98	0.41	0.22	100.00
1967.68	4.22	1.83	0.72	0.24	0.10	100.00
1968.69	2.89	1.20	0.45	0.20	0.09	100.00
1969.70	2.67	1.04	0.42	0.13	0.04	100.00
1970.71	1.97	1.14	0.51	0.21	0.05	100.00
1971.72	2.31	0.85	0.38	0.19	0.04	100.00
1972.73	2.05	0.73	0.33	0.12	0.05	100.00
1973.74	1.94	0.68	0.26	0.05	0.04	100.00

Source: Same as for Appendix C, Table 8.

Table 10

PERCENTAGE DISTRIBUTION OF I·U·D· ACCEPTORS
ACCORDING TO EDUCATIONAL STATUS

Year	Educational status				Total
	Illiterate	Literate but below matric	Matric & above	Literate not specified	
1966-67	21.9	70.8	7.3	....	100.00
1967-68	22.8	71.4	5.8	....	100.00
1968-69	31.1	63.5	5.4	....	100.00
1969-70	28.0	66.6	5.4	....	100.00
1970-71	21.94	71.09	6.97	....	100.00
1971-72	15.37	71.88	10.39	2.36	100.00
1972-73	7.42	74.67	15.42	2.49	100.00
1973-74	9.92	72.65	15.93	1.50	100.00

Source: Same as for Appendix C, Table 8.

Table 11

PERCENTAGE DISTRIBUTION OF I·U·D· ACCEPTORS ACCORDING
TO INCOME

Year	Monthly income					Total
	Below Rs.50	Rs. 50.99	Rs.100.149	Rs. 150.199	Rs. 200 and above	
1966-67	33.08	56.06	6.57	2.46	1.83	100.00
1967-68	28.74	57.12	8.77	3.06	2.31	100.00
1968-69	24.29	61.83	9.79	2.12	1.97	100.00
1969-70	15.80	65.97	11.22	3.91	3.10	100.00
1970-71	21.45	59.91	9.89	5.57	3.18	100.00
1971-72	12.85	70.34	10.77	2.16	3.88	100.00
1972-73	7.47	70.00	11.86	5.01	5.66	100.00
1973-74	8.75	68.59	13.14	3.43	6.09	100.00

Source: Same as for Appendix C, Table 8.

Table 12

PERCENTAGE DISTRIBUTION OF I·U·D· ACCEPTORS ACCORDING TO OCCUPATION

Occupation	1966-67	1967-68	1968-69		1969-70	
	Wife	Wife	Husband	Wife	Husband	Wife
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agricultural labourers	0.33	5.81	7.49	3.41	8.49	4.33
Skilled workers	1.41	7.17	4.71	1.86	6.25	1.19
Unskilled workers	30.83	27.25	59.99	38.11	62.93	51.33
Cultivators	5.24	6.04	12.15	1.70	6.69	2.04
Professional workers	1.31	1.59	1.78	2.63	2.81	1.55
Tradesmen and businessmen	1.75	1.88	5.37	1.32	5.06	1.07
Clerical workers	0.50	1.15	1.46	0.32	1.50	0.57
Others	41.40	24.73	4.99	10.35	4.57	0.70
No occupation	17.23	24.33	2.05	40.30	1.50	28.22
Total	100.00	100.00	100.00	100.00	100.00	100.00

Table 12—(contd.)

Occupation	1970.71		1971.72		1972.73		1973.74	
	Husband (8)	Wife (9)	Husband (10)	Wife (11)	Husband (12)	Wife (13)	Husband (14)	Wife (15)
Agricultural labourers	15.14	2.82	5.90	3.18	9.89	6.22	4.95	3.17
Skilled workers	4.05	2.02	6.98	4.56	18.54	6.17	11.86	3.90
Unskilled workers	57.79	25.41	69.17	59.66	38.00	21.73	37.97	28.27
Cultivators	6.35	1.93	7.07	2.70	12.08	3.66	16.41	5.53
Professional workers	3.11	1.20	3.22	2.82	3.99	1.67	4.27	1.78
Tradesmen and businessmen	6.21	1.27	3.98	1.49	9.41	4.33	5.83	1.73
Clerical workers	1.53	0.48	1.38	1.21	2.53	0.93	4.58	2.21
Others	2.94	1.34	2.21	5.43	0.70	29.42	3.88	25.45
No occupation	2.12	63.53	0.09	18.95	4.86	25.87	20.25	27.96
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Same as for Appendix C, Table 8.

Table 13

PERCENTAGE DISTRIBUTION OF VASECTOMISED PERSONS ACCORDING TO AGE (IN CAMPS)

Age group	Name of Camp							
	Trivandrum	Ernakulam I	Ernakulam II	Trichur	Cannanore	Kottayam	Quilon	Palghat
20-29	13.10	9.49	13.5	8.9	6.27	....	....	....
30-39	45.95	44.28	48.3	40.5	41.28	....	....	....
40+	40.95	46.25	38.2	50.6	52.45	....	....	....
Total	100	100	100	100	100			

Source: D.R.C., Trivandrum—Reports on Mass Camps.

Table 14

PERCENTAGE DISTRIBUTION OF THE AGE OF THE WIVES OF PERSONS VASECTOMISED IN THE CAMPS

	15-19	20-24	25-29	30-34	35-39	40-45	45+	Total
Trivandrum	0.51	20.29	29.38	23.84	21.70	3.89	0.39	100.00
Ernakulam II	0.3	15.8	27.4	26.2	24.4	5.4	0.5	100.00
Trichur	0.23	11.25	22.75	23.75	27.93	11.25	2.84	100.00
Cannanore	0.53	13.18	29.44	26.66	24.51	5.15	0.53	100.00

Source: Same as for Appendix C, Table 13.

Table 15

PERCENTAGE DISTRIBUTION OF VASECTOMISED PERSONS IN CAMPS ACCORDING TO THE NUMBER OF CHILDREN LIVING

	No. of children living								Total
	0	1	2	3	4	5	6	7+	
Trivandrum	0.7	24.7	25.6	17.6	13.2	8.9	9.3	100.0
Ernakulam I	0.5	22.3	27.6	18.6	12.8	11.7	6.5	100.0
Ernakulam II	0.5	21.9	26.3	20.0	14.6	9.1	7.6	100.0
Trichur	0.9	18.8	22.7	19.6	15.5	10.9	11.6	100.0

Source: Same as for Appendix C, Table 13.

Table 16

PERCENTAGE DISTRIBUTION OF PERSONS VASECTOMISED IN CAMPS ACCORDING TO OCCUPATION

	Agricultural labourers	Skilled workers	Unskilled workers	Cultivators and farmers	Professional workers	Traders and business men	Clerks	Others	No occupation	N.R.	Total
Trivandrum	40.17	16.30	21.80	5.22	1.42	5.61	1.77	7.41	0.15	0.15	100
Ernakulam I	38.84	9.74	25.45	15.71	2.47	4.79	0.36	2.46	0.18	....	100
Ernakulam II	59.0	9.2	....	20.3	2.8	4.2	0.4	3.8	0.3	....	100
Trichur	20.8	15.7	41.0	7.7	0.8	6.7	1.1	5.1	0.1	1.0	100
Cannanore	40.76	13.89	17.79	16.92	1.85	4.52	2.22	1.45	0.60	....	100

Source: Same as for Appendix C, Table 13.

Table 17

DISTRIBUTION OF PERSONS VASECTOMISED IN CAMPS ACCORDING TO
EDUCATIONAL STATUS

Educational status	Name of camp				
	Trivandrum	Ernakulam I	Ernakulam II	Trichur	Cannanore
Illiterate	30.35	12.4	20.4	24.25	27.13
Literate but below primary	40.30	58.4	45.5	46.78	38.82
Primary but below matric	26.33	23.3	31.5	20.41	30.51
Matric and above	2.84	5.9	2.6	3.59	3.54
Not specified and N.R.	0.18	....	....	4.97	....
Total	100.00	100.00	100.00	100.00	100.00

Source: Same as for Appendix C. Table 13.

Table 18

DISTRIBUTION OF PERSONS VASECTOMISED IN CAMPS
ACCORDING TO RELIGION

	Hindus	Christians	Muslims	Total
Trivandrum	75.3	19.8	4.9	100.0
Ernakulam I	54.9	37.1	8.0	100.0
Ernakulam II	68.1	26.4	5.5	100.0
Trichur	71.6	21.6	6.8	100.0
Cannanore	82.28	9.84	7.88	100.0

Source: Same as for Appendix C, Table 13.

Appendix D—Table 1

PROGRESS OF ACHIEVEMENTS OF VASECTOMY,
TUBECTOMY, I·U·D· AND C·C· USERS—KERALA
1957 TO 1976

Year	Vasectomy	Tubectomy	Total sterilisation	I·U·D	C·C·Users	Equivalent sterili- sation
1957	521	158	679	....	....	679
1958	1633	1507	3140	....	....	3140
1959	4132	2236	6368	....	....	6368
1960	3079	1953	5032	....	....	5032
1961	3578	2939	6517	....	....	6517
1962	4182	2916	7098	....	....	7098
1963	10395	2830	13225	....	....	13225
1964	17938	3966	21904	....	....	21904
1965	36102	6532	42634	23062	....	50321
1966	33251	6147	39398	43517	....	53903
1967	49489	10504	59993	36887	....	72288
1968	64081	14066	78147	39742	....	91394
1969	42578	17982	60560	36866	....	72840
1970	48847	20592	69439	32559	9650	80828
1971	76141	24192	100333	19521	7824	107274
1972	73683	30374	104057	21719	4522	111548
1973	48448	35707	84155	15690	11797	95939
1974	15056	41174	56230	26039	14104	72746
1975	22823	48981	71804	22720	17228	88948
1976	186037	80434	266471	24961	8939	275288
Total	741994	355190	1097184	343283	74064	1241280

Source: State Family Welfare Bureau.

Table 2

PROGRESS OF ACHIEVEMENTS OF VASECTOMY,
TUBECTOMY, I·U·D· AND C·C· USERS—KERALA
FINANCIAL YEAR 1965.66 TO 1975.76

Year	Vasectomy	Tubectomy	Total sterilisation	I·U·D·	C·S·Users	Equivalent sterilisation
Up to						
1965.66	89035	26307	115342	34812	....	126946
1966.67	33069	7205	40274	40760	6172	54456
1967.68	53756	11399	65155	37553	17543	77640
1968.69	58775	15065	73840	36062	25860	87292
1969.70	42142	18404	60546	37708	13018	73838
1970.71	46621	21396	68017	30584	24065	79508
1971.72	123747	27364	151111	18167	32310	158953
1972.73	59465	30924	90389	21444	18175	98538
1973.74	14751	35638	50389	21703	23873	58949
1974.75	18466	43685	62151	22221	26658	71039
1975.76	94270	62352	156622	28302	23500	167361
Total	634097	299739	933836	329016	211174	1054520

Source: State Family Welfare Bureau.

Table 3

TARGET AND ACHIEVEMENTS OF STERILISATION
AND I·U·D·—KERALA

Year	Sterilization			I·U·D·		
	Target	Achievement	% of target achievement	Target	Achievement	% of target achievement
1967.68	79664	65155	81.8	159328	37553	23.6
1968.69	122544	73840	60.3	81696	36062	44.4
1969.70	117300	60546	51.6	46000	37708	81.1
1970.71	128922	68017	52.8	66610	30584	45.9
1971.72	88048	151111	171.6	55030	18167	33.0
1972.73	219620	90389	41.2	55000	21444	39.0
1973.74	100000	50389	50.4	25000	21703	86.8
1974.75	63300	62151	98.2	23100	22221	96.2
1975.76	148400	156622	105.5	50900	28302	55.6

Source: State Family Welfare Bureau.

Table 4

DISTRICT-WISE ACHIEVEMENTS—1967.68 TO 1975.76

District	1967.68			1968.69				1969.70				
	Vasec- tomy	Tubec- tomy	Total	I·U·D·	Vasectomy	Tubec- tomy	Total	I·U·D	Vasec- tomy	Tubec- tomy	Total	I·U·D·
Trivan- drum	7552	2899	10451	6963	8249	4027	12276	9765	4724	4465	9189	7480
Quilon	6748	1730	8478	5554	7246	1968	9214	4931	5798	2249	8047	6274
Alleppey	7214	966	8180	6109	7496	1262	8758	4400	7363	1420	8783	6872
Kottayam	4753	1075	5828	3872	6054	1514	7568	3214	4269	1762	6031	4135
Idukki	....	....	....	....	....	....	....	....	....	....	....	....
Ernakulam	6097	1536	7633	3998	8591	2179	10770	3837	5353	2798	8151	3337
Trichur	5670	1001	6671	3220	4449	1185	5634	2434	3493	1463	4956	2676
Palghat	3667	327	3994	4239	3044	496	3540	4556	2338	585	2923	3952
Malap- puram	....	....	....	....	....	....	....	....	....	....	....	....
Kozhikode	8311	779	9090	2336	7436	1693	9129	1620	5956	2123	7819	1519
Canna- nore	3744	1086	4830	1362	5776	1175	6951	1308	3108	1539	4647	1463
Total	53756	11399	65155	37653	58341	15499	73840	36065	42402	18404	60546	37708

Table 4 (Contd.)

District	1970.71			1971.72			1972.73			I·U·D		
	Vasec- tomy	Tubec- tomy	Total	I·U·D	Vasec- tomy	Tubec- tomy	Total	I·U·D	Vasec- tomy		Tubec- tomy	Total
Trivan- drum	4126	5255	9381	7840	17437	6604	24041	3645	1433	5874	7307	3459
Quilon	5207	2633	7840	5700	1562	3676	5238	3489	11812	5143	16955	3419
Alleppey	5634	1320	6954	4569	1305	1559	2864	3614	984	1502	2486	3893
Kottayam	2934	2394	5328	2875	775	2646	3421	1719	11436	3827	15263	2597
Idukki	....	....	....	....	....	....	....	....	....	....	....	....
Erna- kulam	18504	2986	21490	2028	63413	2885	66298	809	15794	3461	19255	2541
Trichur	2039	2648	4687	2638	20806	3181	23987	797	618	3379	3997	1393
Palghat	1147	589	1736	2282	569	727	1296	1861	10383	900	11283	1338
Malap - puram	1189	454	1643	1183	991	635	1626	1081	739	714	1453	1540
Kozhikode	2543	2445	4988	722	1902	3096	4998	631	1833	3690	5523	766
Canna- nore	2224	1746	3970	747	14987	2355	17342	521	4432	2434	6867	498
Total	45547	22470	68017	30584	123747	27364	151111	18167	59465	30924	90389	21444

Table 4—(Contd.)

District	1973.74			1974.75				1975.76				
	Vasec- tomy	Tubec- tomy	Total	I·U·D	Vasec- tomy	Tubec- tomy	Total	I·U·D	Vasec- tomy	Tubec- tomy	Total	I·U·D·
Trivan- drum	1419	6621	8040	3471	1518	7633	9151	2559	6288	15392	21680	2551
Quilon	4489	5971	10460	3754	783	5712	6495	9635	9086	7360	16446	3810
Alleppey	1023	2331	3354	3708	4337	4488	8825	3311	12475	4909	17384	5253
Kottayam	2284	3814	6098	2014	881	4508	5389	2313	7087	5669	12756	2885
Idukki	....	....	....	....	474	618	1092	717	5442	2385	7827	999
Ernaku- lam	712	3860	4572	1405	1339	5192	6531	2163	7428	6078	13506	3381
Trichur	950	3954	4904	1669	1938	5134	7072	1692	11521	6314	17835	1883
Palghat	232	840	1072	1701	501	1028	1529	3964	4004	1651	5655	2609
Malap- puram	639	931	1570	1600	833	1274	2107	1000	5313	1687	7000	2022
Kozhi- kode	2268	4606	6874	892	4242	5011	9253	1049	13890	6754	20644	1164
Cannanore	735	2640	3375	1489	1620	3087	4707	1204	12177	3712	15889	1745
Total	14751	35568	50319	21703	18466	43685	62151	23607	94711	61911	156622	28302

Source: State Family Welfare Bureau.

Table 5

RATES OF STERILISATION (DISTRICT-WISE) PER 1000 TOTAL POPULATION

District		1967.68	1968.69	1969.70	1970.71	1971.72	1972.73	1973.74	1974.75	1975.76
Trivandrum	V	3.56	3.72	2.08	1.89	7.86	0.63	0.61	0.64	2.60
	T	1.37	1.82	1.97	2.40	2.98	2.60	2.86	2.65	6.38
Quilon	V	2.85	2.94	2.29	2.17	0.64	4.77	1.76	0.30	3.45
	T	0.73	0.78	0.81	1.10	1.51	2.06	2.34	2.22	2.79
Alleppey	V	3.50	3.53	3.41	2.66	0.61	0.39	0.46	1.95	5.59
	T	0.47	0.57	0.66	0.62	0.73	0.61	1.05	2.02	2.19
Kottayam	V	2.26	2.76	1.90	1.41	0.43	7.30	1.44	0.55	4.32
	T	0.51	0.67	0.78	1.15	1.45	2.43	2.40	2.80	6.33
Idukki	V	....	....	....	....	....	....	....	0.58	9.08
	T	....	....	....	....	....	....	....	0.76	3.46
Ernakulam	V	2.84	3.88	2.37	7.99	2.76	7.08	0.31	0.57	3.09
	T	0.71	0.96	1.24	1.27	1.26	1.55	1.69	2.23	2.53
Trichur	V	3.01	2.27	1.76	0.96	9.69	0.28	0.42	0.82	4.77
	T	0.53	0.59	0.74	1.25	1.48	1.55	1.74	2.18	2.61
Palghat	V	1.87	1.49	1.15	0.67	0.34	4.75	0.13	0.28	2.17
	T	0.17	0.23	0.21	0.35	0.43	0.52	0.47	0.85	0.89
Malappuram	V	....	....	....	0.62	0.53	0.38	0.32	0.41	2.52
	T	....	....	....	0.24	0.34	0.37	0.46	0.63	0.79
Kozhikode	V	2.67	2.29	1.72	1.21	0.89	0.84	0.99	1.85	5.87
	T	0.25	0.52	0.64	1.16	1.45	1.69	2.00	2.18	2.85
Cannanore	V	1.75	2.58	1.43	0.94	6.27	1.81	0.28	0.63	4.58
	T	0.51	0.51	0.71	0.74	0.98	0.99	1.02	1.02	1.39
State	V	2.70	2.88	1.97	2.20	5.74	2.70	0.66	0.80	4.01
	T	0.57	0.73	0.86	1.01	1.27	1.41	1.58	1.90	2.65

V. Vasectomy

T. Tubectomy

Table 6

RATES OF VASECTOMY (DISTRICT-WISE) PER 1000 MALE AND TUBECTOMY PER 1000 FEMALE POPULATION

District		1967.68	1968.69	1969.70	1970.71	1971.72	1972.73	1973.74	1974.75	1975.76
Trivandrum	V	7.14	7.46	4.17	3.84	16.04	1.24	1.25	1.31	5.31
	T	2.73	3.63	3.93	4.71	5.9	4.94	5.61	6.34	12.51
Quilon	V	5.68	5.86	4.57	4.43	3.1	9.37	3.59	0.62	7.04
	T	1.46	1.56	1.62	2.15	4.15	3.96	4.60	4.35	5.48
Alleppey	V	7.10	7.16	6.91	5.43	1.25	0.89	0.94	3.98	11.40
	T	0.93	1.12	1.30	1.21	1.43	1.33	2.05	3.95	4.30
Kottayam	V	4.44	5.42	3.73	2.88	0.87	14.48	2.94	1.12	8.82
	T	1.04	1.37	1.59	2.26	2.85	4.70	4.71	5.50	6.78
Idukki	V	....	....	....	....	....	....	....	1.19	12.92
	T	....	....	....	....	....	....	....	1.49	5.40
Ernakulam	V	5.67	7.75	4.73	16.30	56.42	19.99	0.64	1.17	6.31
	T	1.42	1.92	2.48	2.48	2.47	2.95	3.32	4.37	4.96
Trichur	V	6.29	4.74	3.68	1.96	19.75	0.54	0.85	1.68	9.75
	T	1.02	1.13	1.42	2.45	2.91	2.85	3.41	4.27	5.12
Palghat	V	3.90	3.11	2.40	1.36	0.68	11.8	0.26	0.57	4.43
	T	0.33	0.44	0.40	0.69	0.84	0.99	0.11	1.12	1.74
Malappuram	V	....	....	....	1.22	1.08	0.74	0.64	0.84	5.15
	T	....	....	....	0.47	0.66	0.70	0.90	1.23	1.55
Kozhikode	V	5.37	4.61	3.46	2.47	1.82	1.63	2.01	3.76	11.97
	T	0.50	1.03	1.27	2.29	2.85	3.19	3.93	4.28	5.60
Cannanore	V	3.56	5.25	2.91	1.92	12.79	3.51	0.58	1.28	9.34
	T	1.00	1.00	1.40	1.46	2.75	1.87	2.00	2.34	2.72
State	V	5.46	5.82	3.98	4.49	11.93	5.47	1.33	1.64	8.20
	T	1.13	1.44	1.70	1.99	2.53	2.74	3.11	3.72	5.21

V. Vasectomy

T. Tubectomy

Table 7**RATES OF I-U·D· INSERTION PER 1000 FEMALE POPULATION—DISTRICT-WISE**

District	Rates per 1000 female population								
	1967.68	1968.69	1969.70	1970.71	1971.72	1972.73	1973.74	1974.75	1975.76
Trivandrum	6.54	8.42	6.56	14.25	3.28	2.69	2.76	2.13	2.08
Quilon	4.69	4.05	4.97	9.72	4.30	2.70	2.79	2.77	2.85
Alleppey	5.84	4.12	6.28	8.60	3.37	2.79	3.06	2.92	4.63
Kottayam	3.75	3.02	3.75	5.77	1.63	2.95	2.50	2.82	3.47
Idukki	....	....	....	....	....	....	....	1.73	2.29
Ernakulam	3.73	3.49	2.94	3.57	0.67	1.85	1.27	1.82	2.78
Trichur	3.28	2.42	2.59	4.98	0.74	1.04	1.38	1.41	1.53
Palghat	4.15	4.38	3.73	5.52	2.19	1.47	1.86	4.34	2.80
Malappuram	....	....	....	....	1.15	1.69	1.62	9.96	1.90
Kozhikode	1.49	0.99	0.91	1.27	0.59	0.70	0.78	0.90	0.97
Cannanore	1.26	1.14	1.32	1.44	0.43	0.40	1.17	0.91	1.27
State	3.74	3.48	3.54	3.10	1.68	1.95	1.93	1.89	2.36

Table 8

RATE OF STERILISATION PER 1000 MARRIED WOMEN 20.44 YEARS—DISTRICT-WISE

District	Rate per 1000 married women (20.44 years) who have been protected through the sterilisation operation of their husbands								
	1967.68	68.69	69.70	70.71	71.72	72.73	73.74	74.75	1975.76
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trivandrum	27.88	29.13	16.29	14.47	59.50	4.84	4.68	4.92	19.97
Quilon	21.71	22.39	17.44	16.65	4.87	36.16	13.47	2.33	26.44
Alleppey	26.74	26.97	25.97	20.37	4.64	3.50	3.51	14.89	42.77
Kottayam	16.79	20.51	14.12	10.87	3.80	55.70	11.00	4.19	33.23
Idukki	....	....	....	....	....	....	....	4.46	48.65
Ernakulam	21.58	29.48	18.01	59.97	219.85	54.08	2.39	4.39	23.76
Trichur	22.36	16.86	13.08	7.31	73.37	21.50	3.19	6.29	36.59
Palghat	13.22	10.53	8.13	5.24	2.54	45.98	0.99	2.14	16.76
Malappuram	....	....	....	4.89	3.98	2.94	2.40	3.13	19.44
Kozhikode	19.21	16.47	12.37	9.34	6.82	6.55	7.53	14.10	44.99
Cannanore	12.90	19.01	10.54	7.26	47.87	13.81	2.17	4.79	35.07
State	20.10	21.44	14.67	16.45	43.89	20.55	5.14	6.14	30.85

Table 8—(Contd.)

RATE OF STERILISATION PER 1000 MARRIED WOMEN 20.44 YEARS—DISTRICT-WISE

District	Rate per 1000 married women (20.44 years) who have been protected by tubectomy operations								
	1967.68	68.69	60.70	70.71	71.72	72.73	73.74	74.75	1975.76
(1)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Trivandrum	10.73	14.25	15.43	18.43	22.53	19.84	21.69	24.72	48.88
Quilon	5.56	5.94	6.17	8.42	11.45	15.88	17.91	16.97	21.42
Alleppey	3.59	4.35	5.04	4.77	5.54	5.29	8.00	15.41	16.85
Kottayam	3.79	4.98	5.79	8.49	12.99	13.77	13.55	21.42	26.58
Idukki	....	....	....	....	....	....	....	5.82	21.32
Ernakulam	5.40	7.29	9.42	9.68	28.19	11.85	12.93	17.03	19.45
Trichur	3.94	4.38	5.50	9.59	11.03	11.76	13.29	16.66	20.05
Palghat	1.20	1.63	1.48	2.69	2.56	3.99	3.58	4.38	6.91
Malappuram	....	....	....	1.87	2.83	2.84	3.50	4.79	6.17
Kozhikode	1.80	3.74	4.60	8.98	12.44	13.19	15.30	16.66	21.88
Cannanore	3.76	3.76	5.23	5.73	7.52	7.59	7.81	9.13	10.69
State	4.24	5.44	6.40	8.11	9.71	10.69	12.30	14.53	20.16

Table 9

NUMBER OF EQUIVALENT STERILISATION—DISTRICT-WISE—1966.67 TO 1975.76

District	1966.67	67.68	68.69	69.70	70.71	71.72	72.73	73.74	74.75	75.76
Trivandrum	8542	12984	15455	11801	12119	25434	8542	9342	10139	22572
Quilon	8064	10572	10759	10218	9853	6516	18158	11858	7935	17802
Alleppey	6355	10319	10107	11132	8500	4156	3815	4651	9993	19187
Kottayam	4544	7232	8878	7465	6352	4066	16213	6933	6267	13794
Idukki	....	....	....	....	....	....	....	....	1368	8322
Ernakulam	6513	8996	12076	9330	22389	67328	20260	5205	7485	15373
Trichur	5995	6780	6401	5973	6032	24328	4749	5739	7899	18784
Palghat	5310	5430	5009	4309	2625	2046	11807	1767	2274	6306
Malappuram	....	....	....	....	2088	2048	2025	2200	2755	7738
Kozhikode	4930	9968	11245	8427	5265	5306	5857	7253	9714	21022
Cannanore	4203	5359	7367	5183	4285	17725	7112	4001	5210	16461
State	54456	77640	87292	73838	79508	158953	98538	58949	71039	167361

Table 10

**EQUIVALENT STERILISATION PER THOUSAND POPULATION—DISTRICT-WISE—
1966.67 TO 1975.76**

District	Equivalent sterilisation per 1000 population										Rate of cumulative achievements of equivalent sterilisation (up to 75.76) per 1000 population (1975.76 population)
	1966.67	67.68	68.69	69.70	70.71	71.72	72.73	73.74	74.75	75.76	
Trivandrum	4.4	6.4	7.4	5.5	5.6	11.5	3.8	4.0	4.3	9.4	56.8
Quilon	3.8	4.7	4.7	4.4	8.3	2.7	7.3	4.7	3.1	6.8	42.6
Alleppey	3.2	5.2	5.0	5.4	4.0	1.9	1.6	2.1	4.5	8.5	39.1
Kottayam	2.4	3.7	4.5	3.7	3.1	2.2	10.4	4.4	3.9	8.5	50.1
Idukki	....	....	....	....	....	....	....	....	1.7	9.7	11.4
Ernakulam	3.0	4.1	5.3	4.0	9.6	29.4	9.1	2.3	3.2	6.4	73.3
Trichur	3.1	3.4	3.2	2.9	2.9	11.3	2.2	2.5	3.4	7.8	38.5
Palghat	3.4	3.5	3.1	2.6	1.6	1.2	6.8	1.0	1.3	3.5	25.7
Malappuram	....	....	....	...	1.1	1.1	1.1	1.1	1.4	3.7	9.0
Kozhikode	2.6	5.2	5.7	4.2	2.5	2.5	2.7	3.2	4.2	8.9	37.7
Cannanore	2.1	2.5	3.3	2.3	1.8	7.4	2.9	1.6	2.0	6.2	29.0
State	2.8	3.9	4.3	3.6	3.8	7.4	4.5	2.6	3.1	7.1	39.5

Table 11

PERFORMANCE OF STERILISATIONS AND I.U.D.
UP TO THE END OF 1974.75
TRIVANDRUM (P.H.C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Vizhinjam } 2. Venpakal } 3. Pulluvila }	1212	147489	8.2
4. Poonthura	476	83277	5.7
5. Perumkadavila } 6. Vellarada }	678	159938	4.2
7. Kesavapuram	350	142966	2.4
8. Anjengo } 9. Vakkom }	1006	143086	7.0
10. Vamanapuram } 11. Kallara }	615	153919	4.0
12. Manampoor	1142	147369	7.7
13. Kanniakulangara	2217	143984	15.4
14. Poovar	750	130255	5.8
15. Vilappil	263	175310	1.5
16. Puthenthope	1466	152781	9.6
17. Pangappara	281	....	....
18. Vellanad	250	157570	1.6
Total	10706	1737944	6.2

Table 11—(Contd.)

QUILON (P.H.C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974-75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Kulakkada	906	140697	6.4
2. Chavara	} 1191	115587	10.3
3. Theekumbhagom			
4. Mynagapally	1830	137123	13.3
5. Anchal	367	191306	1.9
6. Thrikkadavoor	3067	116022	26.4
7. Kundara	943	97652	9.7
8. Nilamel	} 525	153953	3.4
9. Velinalloor			
10. Kalakode	2094	164734	12.7
11. Sooranad	819	159613	5.1
12. Nadumankavu	1616	126756	12.7
13. Elanthoor	1003	126598	7.9
14. Pathanapuram	453	119353	3.8
15. Konni	1289	122695	10.5
16. Rammi	906	140857	6.4
17. Palathara	830	175030	4.7
18. Enadimangalam	2669	132183	20.2
19. Oachira	653	107051	6.1
Total	21161	2327210	9.1

Table 11—(Contd.)

ALLEPPEY (P·H·C· WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Ambalapuzha	2933	86758	33.8
2. Vallana	922	99271	9.3
3. Kanjeettukara	700	111005	6.3
4. Ezhumattoor			
5. Thrikunnapuzha	1267	136454	9.3
6. Pulicunnu	619	79424	7.8
7. Kurathikad	3403	109129	31.2
8. Muthukulam	2434	101353	24.0
9. Thuravoor	1226	150920	8.1
10. Chettikad	1242	80054	15.5
11. Arookutty	363	75634	4.8
12. Perumbalam			
13. Mallappally	1150	102054	11.3
14. Muhamma	4812	116320	41.4
15. Pandanad	649	132947	4.9
16. Mannar			
17. Chathankari	593	102994	5.8
18. Chunakara	1748	91040	19.2
19. Thumpamon	2354	97460	24.2
20. Chempumpuram	419	110957	3.8
Total	26834	1783774	15.0

Table 11—(Contd.)

KOTTAYAM (P. H. C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent steri- lisation per 1000 population
1. Arunoottimangalam	} 665	133301	5.0
2. Thalayolaparambu			
3. Edamaruku	325	99925	3.3
4. Ullanadu	298	90858	3.3
5. Uzhavoor	} 411	131511	3.1
6. Koodalur			
7. Athirampuzha	503	150386	3.3
8. Erumeli	4443	143343	31.0
9. Karukachal	249	150472	1.7
10. Edayirikapuzha	1395	95347	14.6
11. Kumarakom	239	187128	1.3
12. Mundanakunnu	} 706	99928	7.1
13. Paika			
14. Edayazham	3592	98973	36.3
Total	12826	1381172	9.3

IDUKKI (P. H. C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Upputhara	215	303964	0.8
2. Muttom	1632	151391	10.7
3. Purapuzha	505	68113	7.4
4. Adimali	1481	251452	5.9
Total	3833	774920	4.9

Table 11—(Contd.)
ERNAKULAM (P. H. C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Ankamaly	1375	162264	8.5
2. Kalady			
3. Pampakuda	932	117822	7.9
4. Ramamangalam			
5. Keechery	286	132667	2.2
6. Varapetty	208	118316	1.8
7. Malippuram	363	154659	2.4
8. Ezhikara	943	112783	8.4
9. Nettoor	105	41453	2.5
10. Kumbalangy	275	44514	6.2
11. Vadavucode	1095	104828	10.4
12. Malayidamthuruthu	1126	113990	9.9
13. Chengamanad	1094	96516	11.3
14. Pizhala	213	83374	2.6
15. Vengoor	886	104159	8.5
16. Varapuzha	888	111448	8.0
17. Pandapally	266	112259	2.4
Total	9855	1611052	6.1

Table 11—(Contd.)
TRICHUR (P.H.C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Ollur	811	141814	5.7
2. Tholur	1180	116215	10.2
3. Puthenchira	557	90168	6.2
4. Aloor	406	110026	3.7
5. Kadapuram	101	144973	0.7
6. Azhikode	286	96140	3.0
7. Vatanappally	674	94875	7.1
8. Mullasserri	260	71674	3.6
9. Anandapuram	849	86281	9.8
10. Vadekkekad	191	83975	2.3
11. Elenjipara	2221	106280	2.3
12. Pazhanji	392	121242	3.2
13. Vellanikkara	1318	159682	8.2
14. Thiruvilwamala	938	116302	8.1
15. Mattethur	1417	151430	9.3
16. Peringanam	510	105961	4.8
17. Erumapetty	910	147884	6.2
18. Alapad	676	94412	7.2
Total	13697	2039334	6.7

Table 11—(Contd.)
PALGHAT (P. H. C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Alanallur	1067	145396	7.3
2. Kongad	1001	185652	5.4
3. Coyalmanna	1199	142020	8.4
4. Pazhambalacode	352	190034	1.9
5. Ambalapara	127	121347	1.0
6. Koppam	1792	185250	9.7
7. Chalisseri	245	112855	2.2
8. Vadakkancherry	148	49045	3.0
9. Nanniyode	163	111152	1.5
10. Koduvayoor	306	176535	1.7
11. Kadampazhipuram	370	102575	3.6
Total	6770	1521861	4.4

MALAPPURAM (P. H. C. WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Vengara	200	121956	1.6
2. Valavannur	346	153390	2.3
3. Melathur	928	127123	7.3
4. Vettom	528	142778	3.7
5. Edawanna	134	141171	0.9
6. Kondotty	489	172311	2.8
7. Thrikanapuram	174	129997	1.3
8. Pookothur	976	113286	8.6
9. Mankade	536	145978	3.7
10. Neduva	1229	133487	9.2
11. Wandoor	940	257515	3.7
12. Kuttipuram	720	101393	7.1
Total	7200	1740385	4.1

Table 11—(Contd.)
KOZHIKODE (P·H·C· WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Meenangady	647	175583	3.7
2. Balussery	2910	161144	18.1
3. Thiruvangoor	1074	81217	13.2
4. Kuttiadi	809	105334	7.7
5. Perambra	2562	129271	19.9
6. Olavanna	727	154621	4.7
7. Narikkunni	415	166755	2.5
8. Thiruvallloor	243	83705	2.9
9. Thariode	376	108932	3.5
10. Orkatteri	328	81460	4.0
11. Valayam	266	85334	3.1
12. Cheruppa	156	....	....
13. Mukkan	684	204998	3.3
14. Melody	531	97082	5.5
15. Thalikulathur	335	82896	4.0
Total	11837	1718332	6.9

Table 11—(Contd.)

CANNANORE (P·H·C· WISE)

Primary Health Centre	Equivalent sterilisation up to 1974.75	Population (1971 Census)	Equivalent sterilisation per 1000 population
1. Pappinissery	2461	248333	9.9
2. Periyar	120	177186	0.7
3. Iritty	1112	380426	2.9
4. Panor			
5. Payangadi	2641	224583	11.8
6. Kumbala	323	204803	1.6
7. Azhikode	189	107160	1.7
8. Porunnanoor	693	129335	5.4
9. Mayyil	948	135132	7.0
10. Iriveri	1085	161736	6.7
11. Nileshtar	1604	152015	10.6
12. Penarai	845	166768	5.1
13. Muliya	158	114032	1.4
Total	12179	2201509	5.5

Table 12
VALUES OF BIRTHS AVERTED BY ONE STERILISATION
OVER THE YEARS

Calendar year	Births averted	Financial year	Births averted
1	.06931	1	.00867
2	.27298	2	.19885
3	.25518	3	.26401
4	.23738	4	.24631
5	.21958	5	.22848
6	.20178	6	.21057
7	.18429	7	.19291
8	.16772	8	.17600
9	.15113	9	.15936
10	.13456	10	.14273
11	.11798	11	.12631
12	.10236	12	.10988
13	.08963	13	.09600
14	.07688	14	.08320
15	.06415	15	.07041
16	.05140	16	.05783
17	.04010	17	.04530
18	.03321	18	.03665
19	.02630	19	.02983
20	.01941	20	.02288
21	.01250	21	.01585
22	.00672	22	.00917
23	.00426	23	.00515
Total	2.53886		2.53635

Table 12 (a)
VALUES OF BIRTHS AVERTED BY I.U.D.

Calendar year	Births averted	Financial year	Births averted
1	.05364	1	.00670
2	.19675	2	.15198
3	.13619	3	.16250
4	.10726	4	.12179
5	.07863	5	.09265
6	.05357	6	.06565
7	.03497	7	.04319
8	.02527	8	.03000
9	.01683	9	.02094
10	.00966	10	.01313
11	.00373	11	.00657
Total	0.71650		0.71510

Table 12 (b)

VALUES OF BIRTHS AVERTED BY C. C. USERS

Calendar year	Births averted	Financial year	Births averted
1	.04	1	.005
2	.12	2	.110
		3	.045
Total	0.26		.160

Table 13

BIRTHS AVERTED BY VARIOUS METHODS OF FAMILY WELFARE PROGRAMMES—KERALA (CALENDAR YEAR-WISE)

Year	Birth averted			Total
	Due to sterilisation	Due to IUD	Due to use of conventional contraceptives	
Upto 1966	81402	8108	44	89554
1967	38841	13682	537	53060
1968	53908	17791	1608	73307
1969	69328	21301	1664	92293
1970	82568	23024	2080	107672
1971	97666	22774	2452	122892
1972	118288	20483	2000	140771
1973	136850	18643	2090	157583
1974	147192	17037	3299	167528
1975	151345	17223	3860	172428
1976	171454	16804	4006	192264
Total	1148842	196870	23640	1369352

Table 14

BIRTHS AVERTED BY VARIOUS METHODS OF FAMILY WELFARE PROGRAMMES—KERALA (FINANCIAL YEAR-WISE)

Year	Births averted			Total
	Sterilisation	I·U·D·	C·C· users	
1957.58	13	....	....	13
1958.59	326	....	....	326
1959.60	1228	....	....	1228
1960.61	2655	....	....	2655
1961.62	4037	....	....	4037
1962.63	5526	....	....	5526
1963.64	7435	....	....	7435
1964.65	10750	....	....	10750
1965.66	16833	233	....	17066
1966.67	25721	5564	7	31292
1967.68	35212	12104	228	47544
1968.69	48847	16813	1539	67199
1969.70	64937	20025	1621	86583
1970.71	78001	22431	1916	102348
1971.72	91079	22949	2526	116554
1972.73	118869	20960	2106	141935
1973.74	138376	19141	1811	159328
1974.75	144307	18049	3231	165587
1975.76	149460	17335	3997	170792
Total	943612	175604	18982	1138198

Table 15**ESTIMATED POPULATION, BIRTHS AVERTED AND BIRTH RATES**

Year	Mid year population ('0000)	Births at 38.9 per 1000 population	No. of births averted of (considering non-programme effect also)	Estimates births occurred	Death rate	No. of deaths	Addition to population	Population next year ('0000)	Birth rate
1957	1555	604895	53	604842	15.7	244135	360707	1591	38.90
1961	1708	664412	4888	659524	14.1	240828	418696	1750	38.61
1964	1838	714982	13016	701916	12.9	237102	464814	1884	38.20
1966	1932	751548	39881	711667	12.1	233772	477895	1980	36.84
1971	2172	844908	138254	706654	10.1	219372	487282	2221	32.53
1972	2221	863969	158367	705602	9.7	215437	490165	2270	31.77
1973	2270	883030	177281	705749	9.7	220190	485559	2319	31.09
1974	2319	902091	188469	713622	9.7	224943	488679	2368	30.77
1975	2368	921152	193982	727170	9.7	229696	497474	2418	30.71
1976	2418	940602	216297	724305	9.7	234546	489759	2467	29.95

Table 16

NUMBER AND PERCENTAGE OF COUPLES PROTECTED (METHOD-WISE)

Year	No. of couples at mid year (lakhs)	No. of couples protected by				Percentage of couples currently protected by			
		Sterilisation	I·U·D·	C·C· users	Total	Sterilisation	I·U·D·	C·C· users	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1961	25.5	20777	....	....	20777	0.81	....	....	0.81
1962	26.0	27291	....	....	27291	1.05	....	....	1.05
1963	26.4	39702	....	....	39702	1.50	....	....	1.50
1964	26.8	60391	....	....	60391	2.25	....	....	2.25
1965	27.3	101064	17836	....	118900	3.70	0.65	....	4.36
1966	27.7	137562	46412	667	184641	4.97	1.68	0.02	6.67
1967	28.1	193535	62197	6066	261798	6.89	2.21	0.22	9.32
1968	28.5	266101	76591	5925	348617	9.34	2.69	0.21	12.23
1969	29.0	318511	84850	7184	410546	10.98	2.93	0.25	14.16
1970	29.4	379517	87894	9650	477061	12.91	2.99	0.33	16.23
1971	29.8	470655	79581	7824	558060	15.79	2.67	0.26	18.73
1972	30.5	564139	73530	6522	644191	18.50	2.41	0.21	21.12
1973	31.1	634426	65588	11797	711811	20.40	2.11	0.38	22.89
1974	31.8	674316	66861	14104	755281	21.20	2.10	0.44	23.75
1975	32.5	728634	64483	15584	808701	22.42	1.98	0.48	24.88
1976	33.1	974839	64939	13330	1053108	29.45	1.96	0.40	31.82

Appendix E—Table 1

YEAR-WAR EXPENDITURE ON FAMILY PLANNING PROGRAMME

Year	Administration	Family Planning Centre	Publicity and Propaganda	Construction	Compensation	Transport
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1958.59	11125	65466	117206			
1959.60	19994	157211	108849			
1960.61	7885	234882	75099			
1961.62	264	260129	315			
1962.63	2594	447102	9790			
1963.64	2697	1089143	26196			
1964.65	40138	3107466	19121			
1965.66	134303	5918797	65572			
1966.67	63916	8134551	459972			
1967.68	166035	12152833	440071	912851		

1968.69	193303	15373027	448263	1496031	....	....
1969.70	218551	17166098	489594	106637	....	....
1970.71	218650	19996686	789603	808696	....	....
1971.72	1629047	15100844	2185186	779561	7709751	1688877
1972.73	1799341	16563638	3618424	2356238	3353043	1340863
1973.74	1709354	17115900	444439	2275430	1320327	936272
1974.75	1991052	18628830	667062	1419655	1877285	804987
1975.76	2327259	22024368	241670	971510	9156450	1056891
Grand Total	10535508	173536971	10206432	12086279	23416856	5827890

Source: State Family Welfare Bureau.

Table 1—(Contd.)

Year	Training and Research	Maternity and Child Health	Grants	Other services	Total
(1)	(8)	(9)	(10)	(11)	(12)
1958.59					193797
1959.60					286054
1960.61					317866
1961.62					260708
1962.63				2075	461561
1963.64				231438	1349474
1964.65				490121	3656846
1965.66				10012	6128684
1966.67				....	8658439
1967.68	316676		128431	14853	4131750

1968.69	835646	....	124449	....	18470719
1969.70	744265	....	203299	16	19888130
1970.71	447217	....	348067	134068	22742987
1971.72	559443	....	774672	3000652	33428033
1972.73	618686	605225	138296	2348708	32742462
1973.74	630556	579409	169537	1294805	26476029
1974.75	666666	123672	368202	1349268	27896679
1975.76	673047	287130	700841	2164610	39603776
Grand Total	5492202	1595436	2955794	11040626	256692994

Source: State Family Welfare Bureau.

Table 2

NUMBER OF EQUIVALENT STERILISATIONS AND COST
PER EQUIVALENT STERILISATION OVER THE
YEARS

Year	Total equivalent sterilisation	Total family welfare expenditure	Cost per equivalent sterilisation
1966.67	54456	8658439	158.99
1967.68	77640	14131000	182.07
1968.69	87292	18472000	211.61
1969.70	73838	19888000	269.35
1970.71	79508	22743000	286.05
1971.72	158953	33428000	210.30
1972.73	98538	32742000	332.28
1973.74	58949	26476000	449.13
1974.75	71039	27897000	392.70
1975.76	167361	39603776	236.64
Total	105420	244039215	2729.12

Table 3

COST PER BIRTH AVERTED FOR THE YEARS 1966-67
TO 1975-76

Year	Total family welfare expenditure	Total births that would be averted by each years performance	Cost per birth that would be averted by each years performance	Total births averted during each year	Cost per birth averted
1966.67	8658439	132284	65.45	31292	276.60
1967.68	14131000	194917	72.49	47544	297.22
1968.69	18472000	217210	85.04	67199	274.89
1969.70	19888000	182614	108.90	86583	229.70
1970.71	22743000	198236	114.72	102348	222.21
1971.72	33428000	401431	83.27	116554	286.80
1972.73	32742000	247501	132.29	141935	230.68
1973.74	26476000	147144	179.93	159328	166.17
1974.75	27897000	177792	156.90	165587	168.47
1975.76	39603776	421247	92.59	170792	231.88
Annual average cost:			109.16		238.46

Appendix F—Table 1
POPULATION IN INDIA 1901—1971

Year	Persons	Males	Females	Decade variation (per cent)
1901	238337313	120760506	117330453	....
1911	252005470	128340309	123665161	5.73
1921	251239492	128504733	122734759	(—)0.30
1931	278867430	142873864	135734938	11.00
1941	318539060	163622013	154632036	14.23
1951	360950365	185456252	175494113	13.31
1961	439072582	226208008	212864574	21.64
1971	547949809	283936614	264013195	24.80

Source: Registrar General of India—Pocket Book of Population Statistics.

Table 2
POPULATION, DECENNIAL GROWTH RATES, SEX RATIOS AND
PERCENTAGE OF URBAN POPULATION BY STATES/
UNION TERRITORIES, CENSUS 1971

Sl. No.	State/Union Territory	Population (000)		Decennial growth rate of population 1961.71	Sex ratio, females per 1000 males	Percentage of urban population to total population
		Males	Females			
1.	Andhra Pradesh	22009	21494	20.90	977	19.31
2.	Assam	7885	7073	34.71	897	8.87
3.	Bihar	28847	27506	21.31	954	10.00
4.	Gujarat	13803	12895	29.39	934	28.08
5.	Hariyana	5377	4660	32.23	867	17.66
6.	Himachal Pradesh	1767	1693	23.04	958	6.99
7.	Jammu Kashmir	2459	2158	29.65	878	18.59
8.	Karnataka	14972	14327	24.22	957	24.31
9.	Kerala	10588	10759	26.29	1016	16.24
10.	Madhya Pradesh	21455	20199	28.67	941	16.29

Table 2—(Contd.)

Sl. No.	State/Union Territory	Population (000)		Decennial growth rate of population 1961-1971	Sex ratio, females per 1000 males	Percentage of urban population to total population
		Males	Females			
11.	Maharashtra	26116	24296	27.45	930	31.17
12.	Manipur	542	531	37.53	980	13.19
13.	Meghalaya	521	491	31.50	942	14.55
14.	Nagaland	276	240	39.88	871	9.95
15.	Orissa	11041	10904	25.05	988	8.41
16.	Punjab	7266	6285	21.70	865	23.73
17.	Rajasthan	13485	12281	27.83	911	17.63
18.	Tamil Nadu	20828	20371	22.30	978	30.26
19.	Tripura	801	755	36.28	943	10.43
20.	Uttar Pradesh	47016	41325	19.79	879	14.02
21.	West Bengal	23436	20876	26.87	891	24.75
22.	Andaman and Nicobar Islands	70	45	81.17	644	22.77
23.	Arunachal Pradesh	251	216	38.91	861	3.70
24.	Chandigarh	147	110	114.59	749	90.55
25.	Dadra and Nagar Haveli	37	37	27.96	1007	....
26.	Delhi	2258	1808	52.93	801	89.70
27.	Goa, Daman & Diu	431	427	36.88	989	26.44
28.	Lakshadweep	16	16	31.95	979	....
29.	Pondicherry	237	235	27.85	989	42.04
All India		283937	264013	24.80	930	19.91

Source: Family Welfare Planning in India, Year Book 1974.75.

Table 3

**BIRTH AND DEATH RATES AND EXPECTATION OF
LIFE AT BIRTH—INDIA**

Decade	Rate per 1000 Population		Expectation of life at birth.		
	Birth	Death	Male	Female	Combined
1901.11	49.2	42.6	22.6	23.3	22.9
1911.21	48.1	47.2	19.4	20.9	20.1
1921.31	46.4	36.3	26.9	26.6	26.8
1931.41	45.2	31.2	32.1	31.4	31.8
1941.51	39.9	27.4	32.4	31.7	32.1
1951.61	40.9	22.0	41.9	40.6	41.3
1961.71	41.1	18.9	47.1	45.6	46.4

Source: Family Welfare Planning in India, Year Book 1974-75.

Table 4

FAMILY PLANNING ACCEPTORS BY METHOD—INDIA

Year	Sterilisation	I·U·D· insertion	C·C· users	Total acceptors	Equivalent sterilisation
(1)	(2)	(3)	(4)	(5)	(6)
1956	7153	....	....	7153	7153
1957	13736	....	....	13736	13736
1958	25148	....	....	25148	25148
1959	42302	....	....	42302	42302
1960	64338	....	....	64338	64338

Table 4—(Contd.)

Year	Sterilisation	I·U·D· insertion	C·C· users	Total acceptors	Equivalent sterilisation
(1)	(2)	(3)	(4)	(5)	(6)
1961	104585	....	....	104585	104585
1962	157947	....	....	157947	157947
1963	170246	....	297613	467859	206821
1964	269565	....	438903	708468	306140
1965 Jan to 1966 March	670823	812713	582141	2065677	990239
1966.67	887368	909726	464605	2261699	1229329
1967.68	1839811	668979	475236	2984026	2102407
1968.69	1664817	478731	960896	3104444	1904469
1969.70	1422118	458726	1509378	3390222	1700809
1970.71	1329914	475848	1962725	3768487	1652090
1971.72	2187336	488368	2354191	5029895	2546308
1972.73	3121856	354624	2397904	5874384	3439889
1973.74	942402	371594	3009995	4323991	1317100
1974.75	1349045	430269	2516870	4296184	1702207

Source: Family Welfare Planning in India—Year Book 1974—75.

Table 5

NUMBER OF COUPLES CURRENTLY PROTECTED BY VARIOUS METHODS OF FAMILY PLANNING AT THE END OF THE YEAR—INDIA

Year	Estimated No. of couples in the reproductive age group ('000)	Couples currently protected due to							
		Sterilisation		I·U·D· Insertion		C·G· Users		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1966.67	86065	2163520	2.5	1312885	1.5	464605	0.5	3941010	4.5
1967.68	87983	3849160	4.4	1543314	1.8	475236	0.5	5867710	6.7
1968.69	89955	5279899	5.9	1552758	1.7	960896	1.1	7793553	8.7
1969.70	91987	6402469	7.0	1546918	1.7	1509378	1.6	9458765	10.3
1970.71	94159	7378554	7.8	1554591	1.7	1962725	2.1	10895870	11.6
1971.72	96157	9033761	9.4	1579133	1.6	2354191	2.4	12967085	13.4
1972.73	98172	11625881	11.8	1473510	1.5	2397904	2.4	15497295	15.8
1973.74	100205	11963396	12.0	1412622	1.4	3009995	3.0	16386013	16.4
1974.75	102248	12687955	12.4	1419541	1.4	2576870	2.5	16624366	16.3

Source: Family Welfare Planning in India—Year Book 1974.75.

Table 6

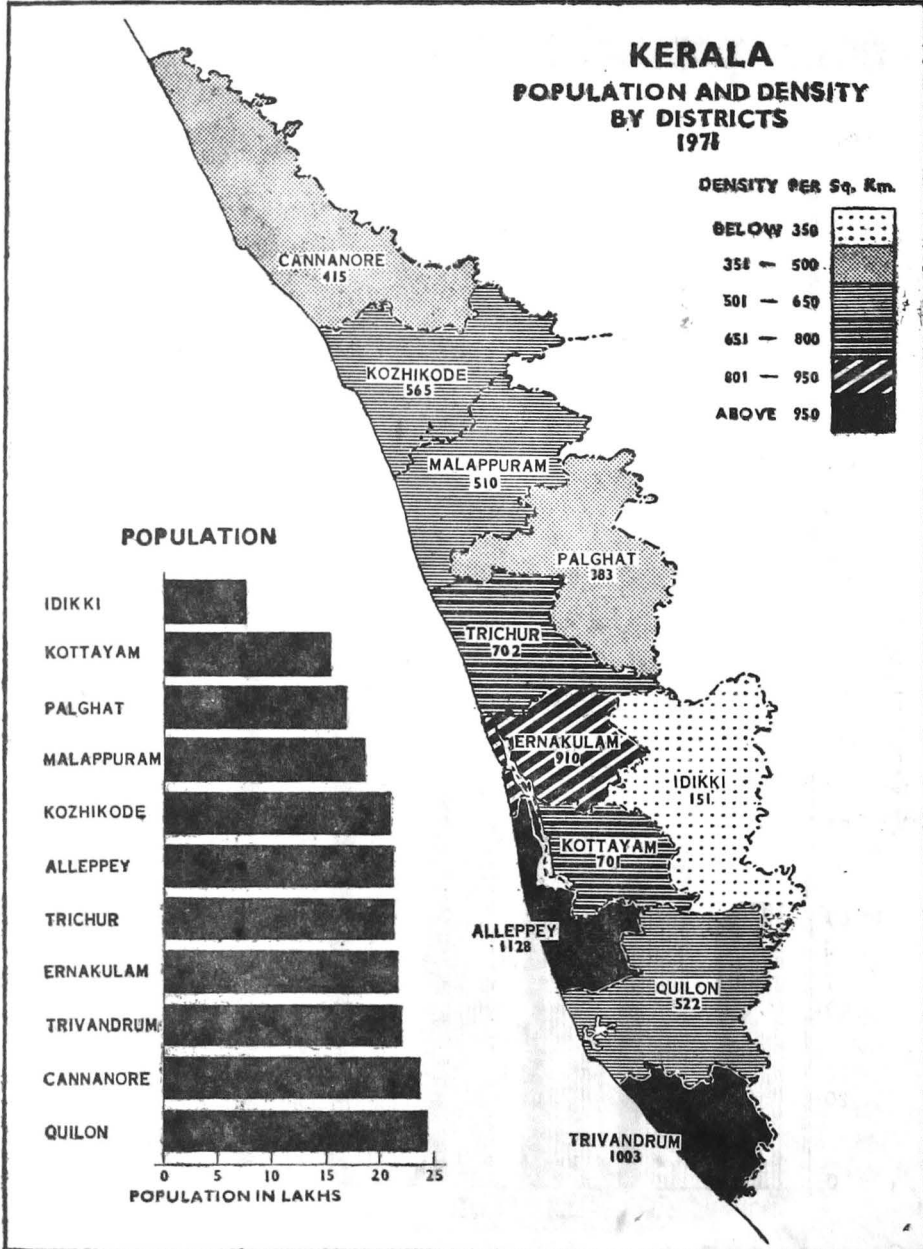
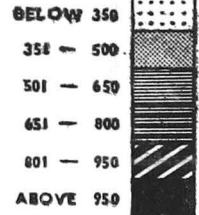
NUMBER OF BIRTHS AVERTED SINCE 1961—INDIA

Year	Births averted (in million)			Total	Cumulative Total
	Sterilisation	I·U·D	C·C· Users		
(1)	(2)	(3)	(4)	(5)	(6)
1961	0.0321	....	....	0.0321	0.0321
1962	0.0531	....	....	0.0531	0.0852
1963	0.0855	....	....	0.0855	0.1707
1964	0.1235	....	....	0.1235	0.2942
1965	0.2005	0.0066	0.0023	0.2094	0.5036
1966.67	0.3153	0.1552	0.0539	0.5244	1.0280
1967.68	0.4962	0.3246	0.0774	0.8982	1.9262
1968.69	0.8472	0.4412	0.1287	1.4171	3.3433
1969.70	1.2162	0.4938	0.1486	1.8586	5.2019
1970.71	1.5178	0.5090	0.2123	2.2391	7.4410
1971.72	1.7674	0.5005	0.2948	2.5627	10.0037
1972.73	2.1423	0.4894	0.3425	2.9742	12.9779
1973.74	2.7107	0.4796	0.4585	3.6488	16.6267
1974.75	2.9629	0.4638	0.5332	3.9599	20.5866

Source: Family Welfare Planning in India, Year Book 1974.75.

KERALA POPULATION AND DENSITY BY DISTRICTS 1978

DENSITY PER Sq. Km.



CANNANORE
415

KOZHICODE
565

MALAPPURAM
510

PALGHAT
383

TRICHUR
702

ERNAKULAM
910

IDIKKI
151

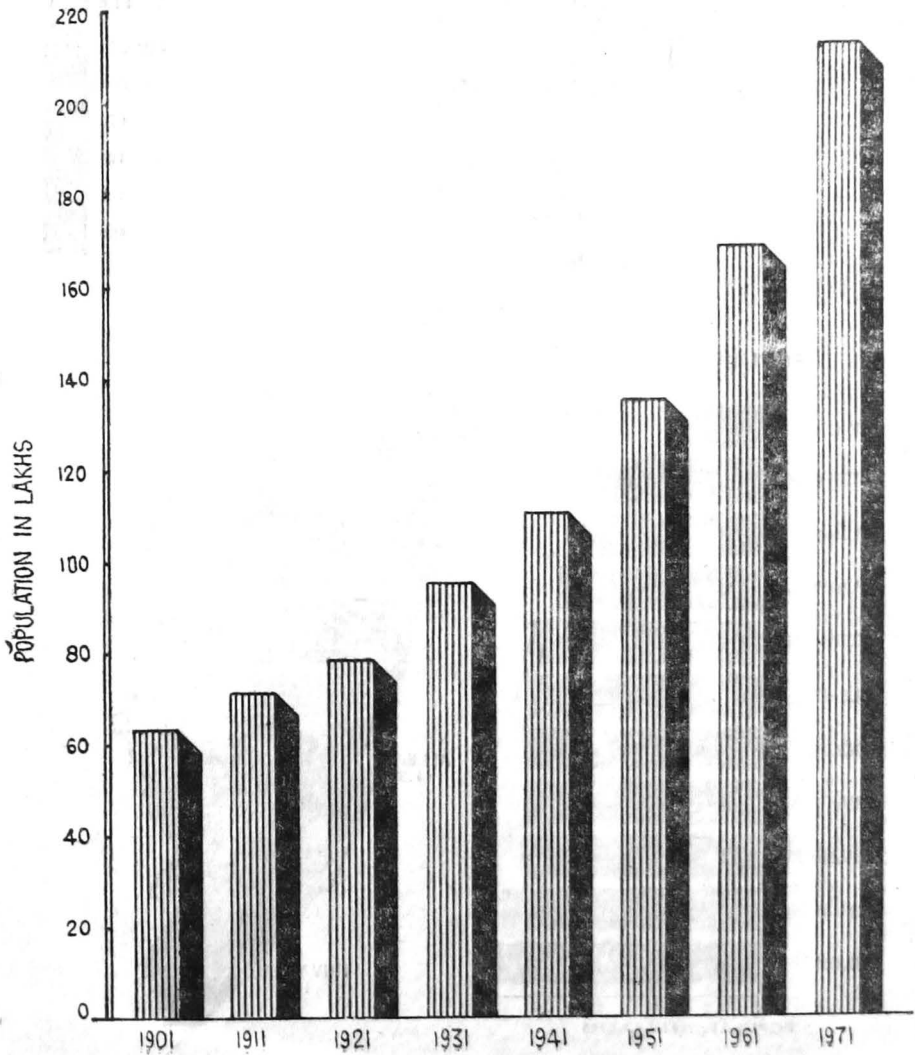
KOTTAYAM
701

ALLEPPEY
1128

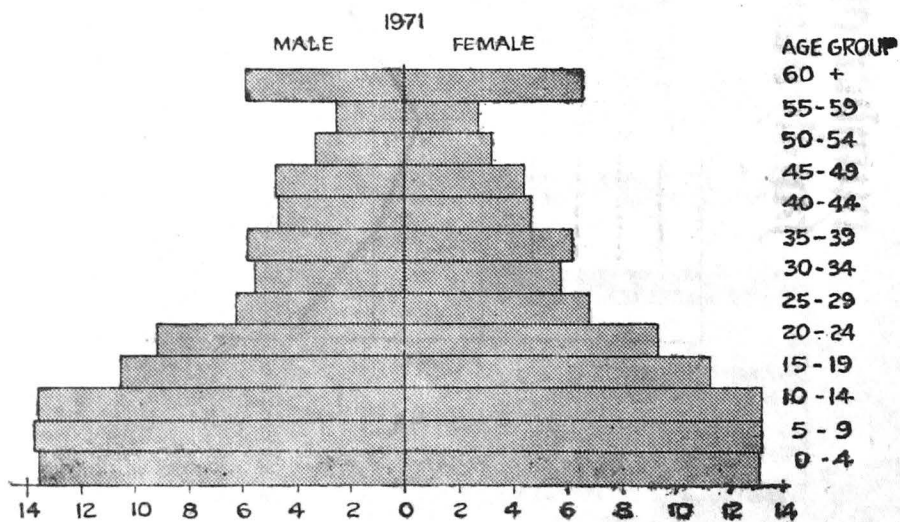
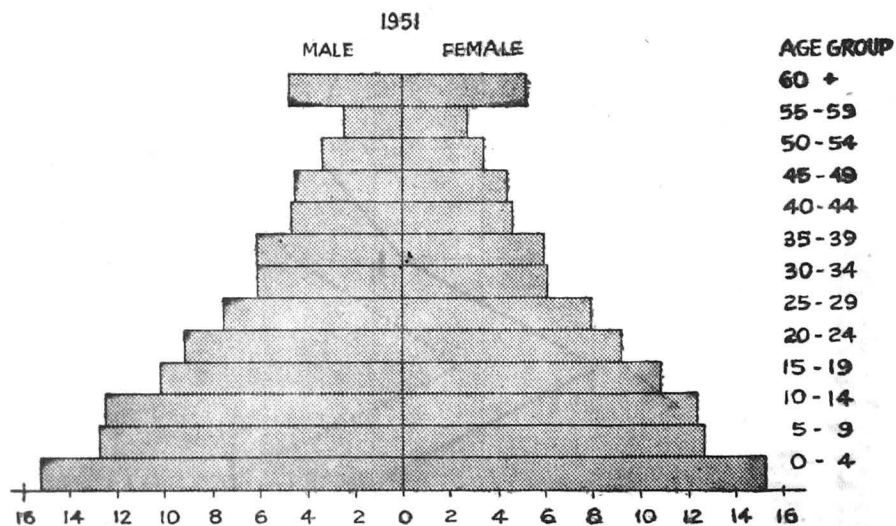
QUILON
522

TRIVANDRUM
1003

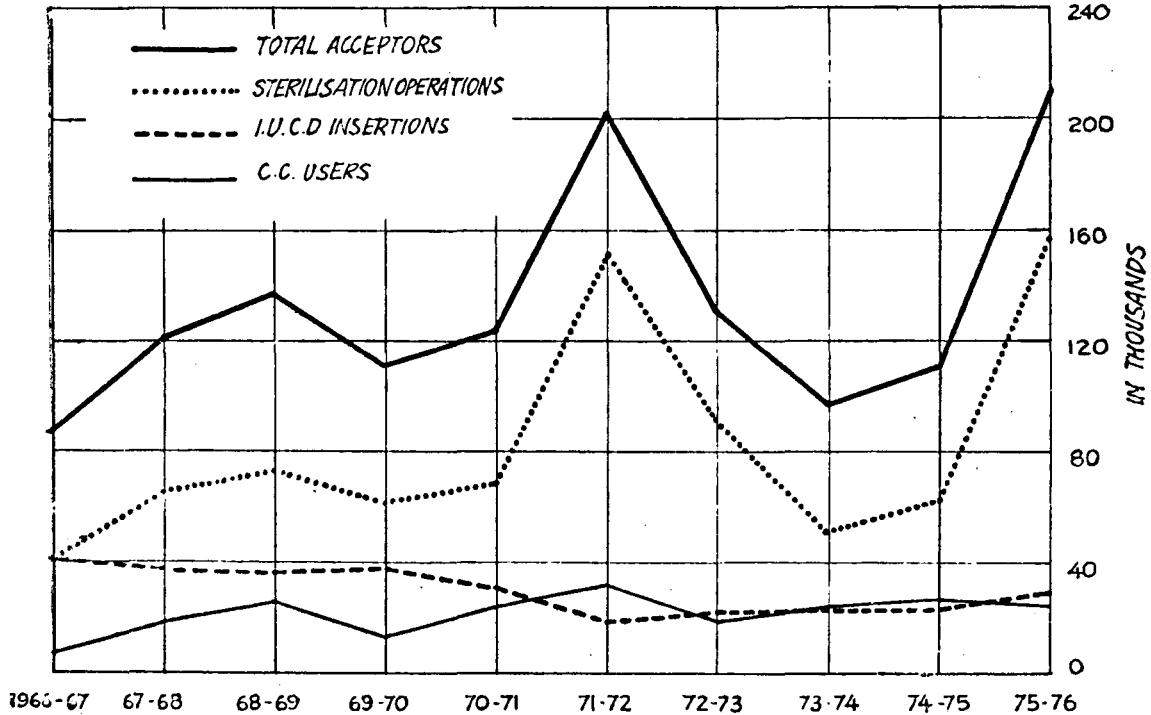
population growth



percentage distribution of population by age & sex

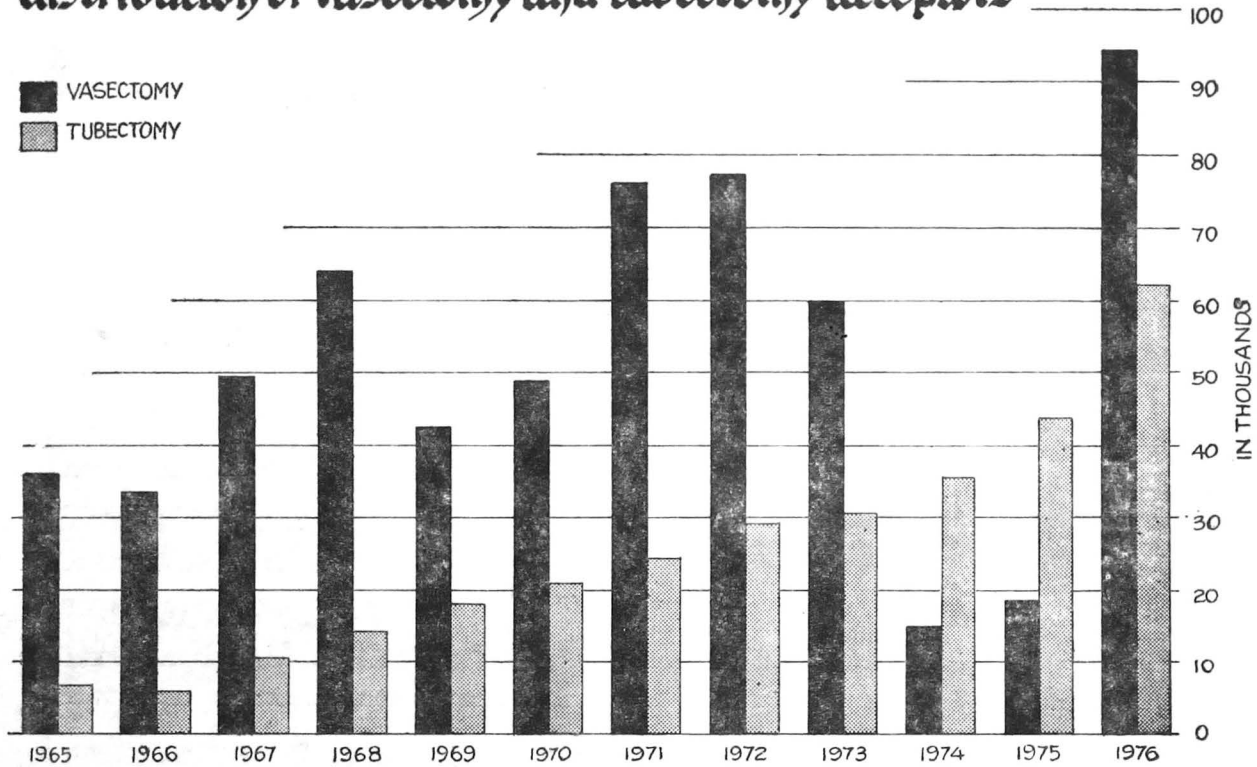


number of acceptors of family planning

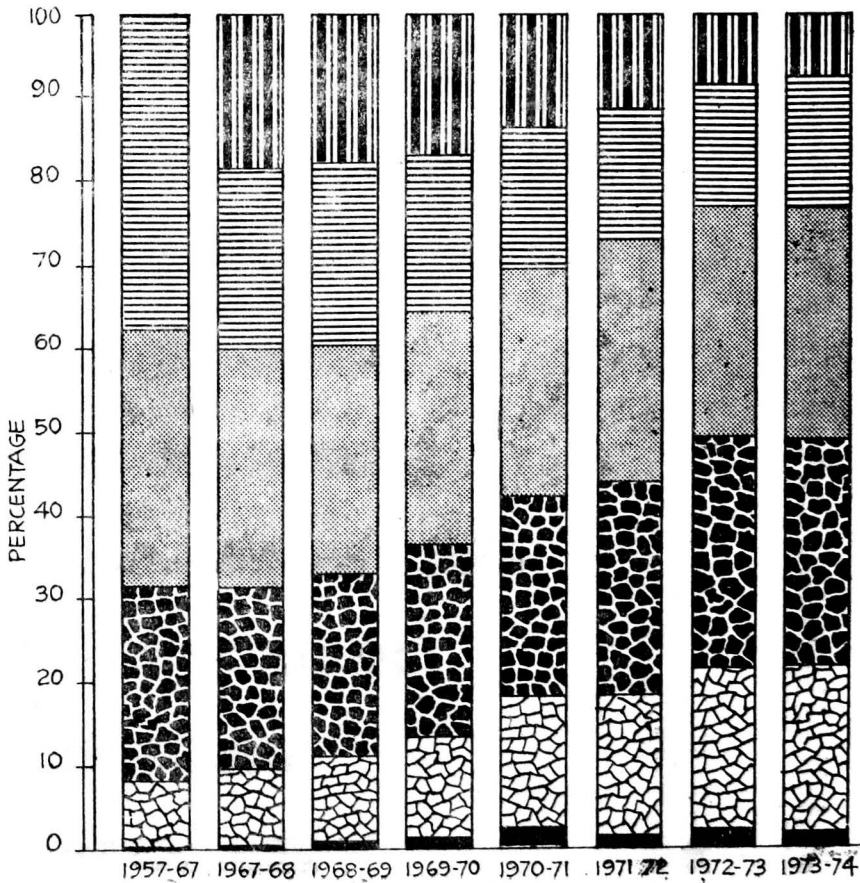


distribution of vasectomy and tubectomy acceptors

■ VASECTOMY
▨ TUBECTOMY

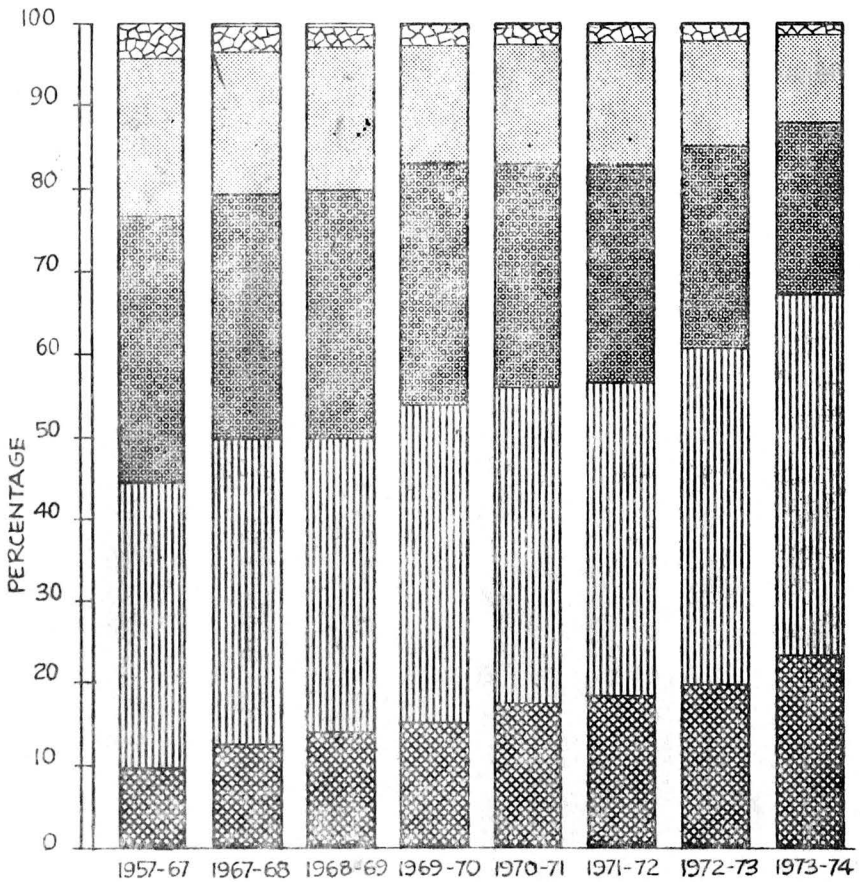


percentage distribution of sterilised persons by age - Vasectomy

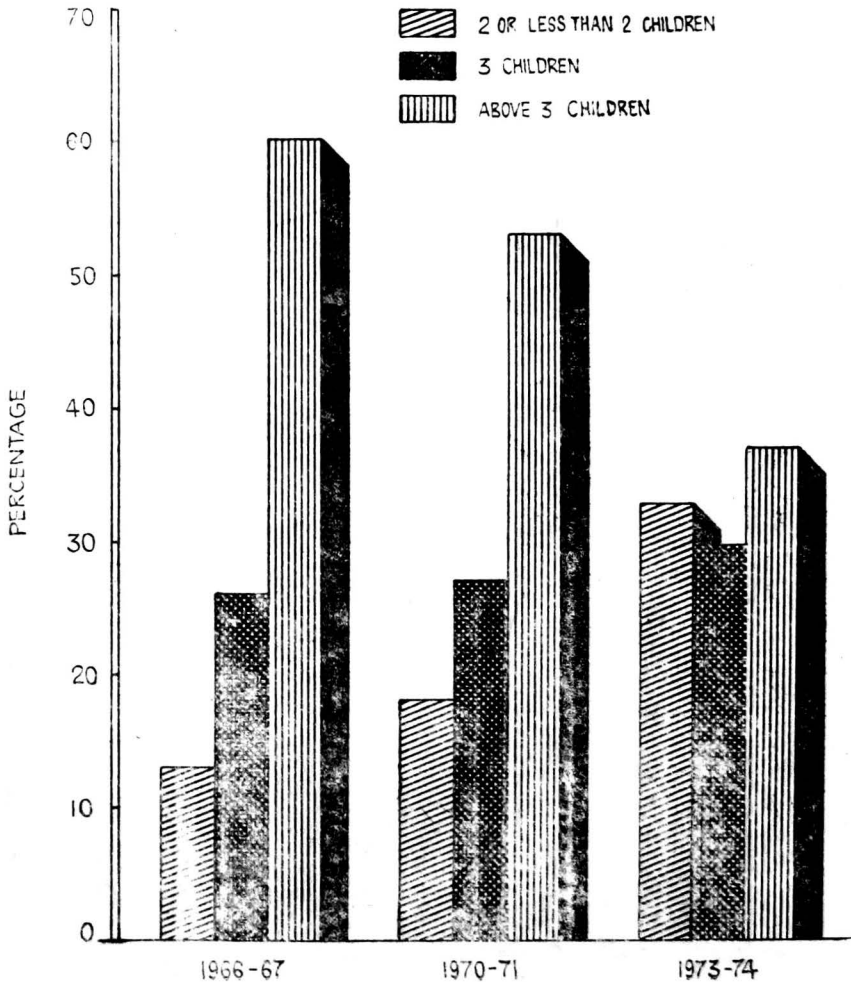


percentage distribution of sterilised persons by age – Tubectomy

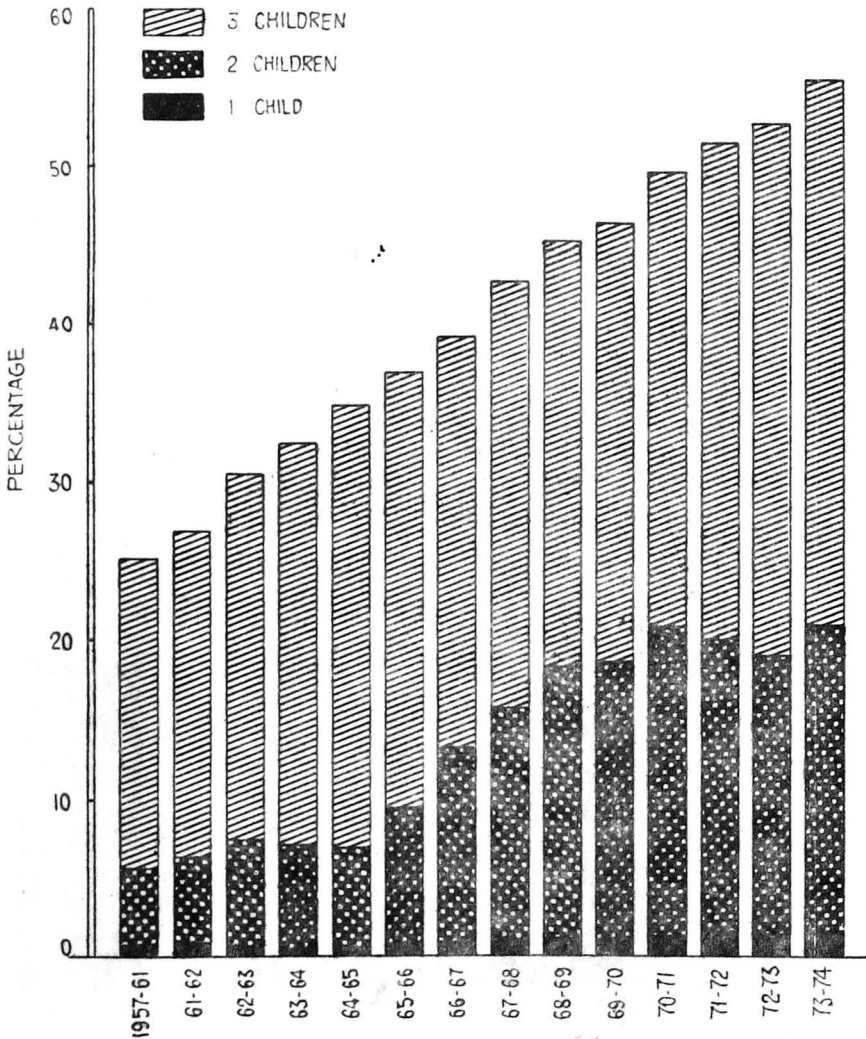
AGE	30-34
15-19	35-39
20-24	40-44
25-29	45+



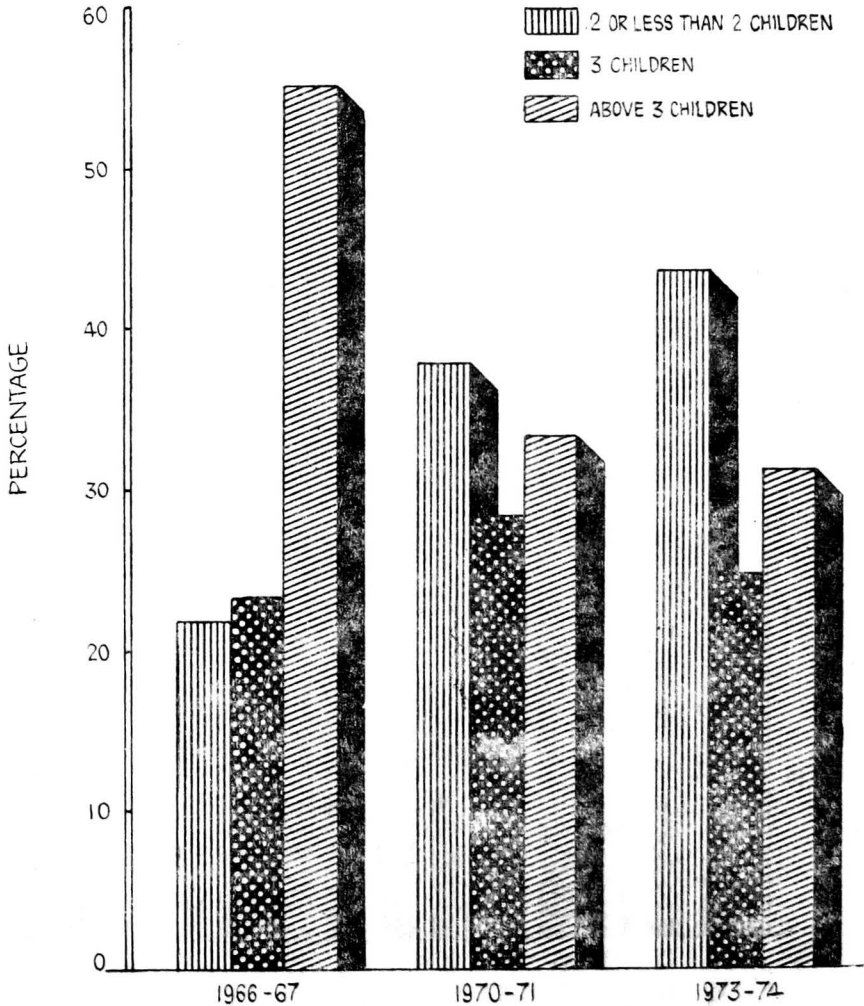
percentage distribution of sterilised persons according to living children



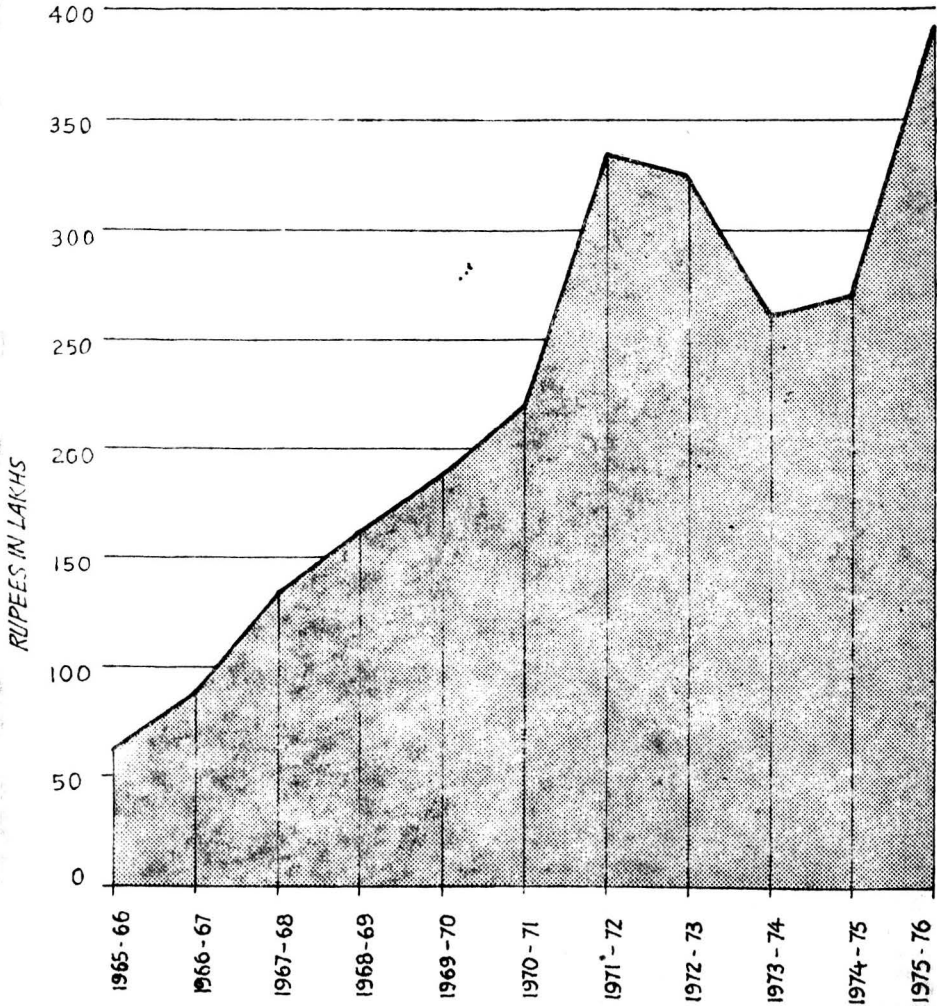
percentage distribution of sterilised persons according to number of living children



Percentage of U.S. adopters according to number of living children

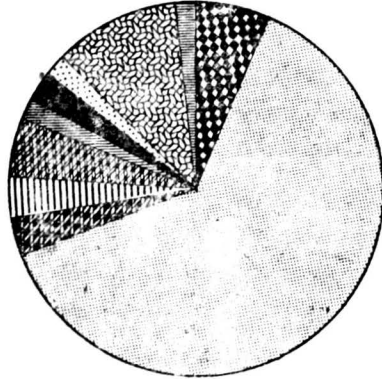


expenditure on family planning

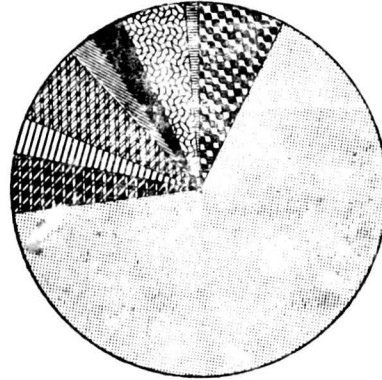


percentage distribution of expenditure on family planning programme

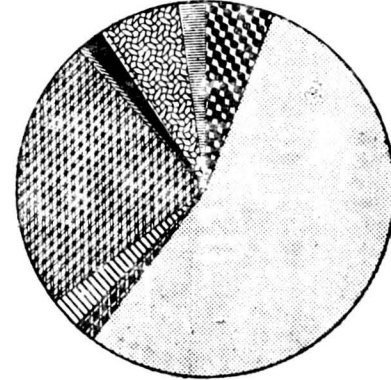
1973 - 74



1974 - 75



1975 - 76



ADMINISTRATION

RURAL FAMILY WELFARE PLANNING CENTRE

URBAN FAMILY WELFARE PLANNING CENTRE

TRANSPORT

COMPENSATION

MASS EDUCATION

TRAINING AND RESEARCH STATISTICS

MATERNITY AND CHILD HEALTH

OTHER SERVICES

OTHER EXPENDITURE