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INTRODUCTION

Some three decades ago (1953), a project was taken up in a block of three traditional fishing villages in the State of Kerala, with a view to introducing modern technologies of fishing and fish preservation. Mechanized boats and improved gear were introduced to modernise fishing and the use of ice and freezing were introduced to improve the preservation of the fish caught. While the primary thrust was on increased productivity in fishing and fish preservation, the project also envisaged providing better health services and sanitation in and around the three villages. The purpose of this study was to discover and document how the resulting changes in the technology of fishing and fish preservation in Kerala communities have affected women of fishing households, not only in general economic terms, but also in terms, specifically, of demographic behaviour.

Clearly, the project, as it was conceived and designed, was mainly geared towards men in the community. Since women did not go out fishing, it was assumed, that change in the technology of fishing, was of no direct concern to women. However, women did participate to some extent in the preservation, distribution and marketing of the fish caught under traditional methods. But the project did not show concern for women as such in the measures envisaged for the improvement of fish preservation. Whatever change that was directed explicitly towards women of the project area was in the form of better sanitation and medical health facilities.

The basic underlying assumption was that if men of the fishing households could be helped to improve their economic position, their womenfolk would automatically stand to gain. The idea was that if the benefits of development were to reach men, they would automatically trickle down to their women. Very often this assumption is justified on the grounds that either women in these households are not doing anything worthwhile in terms of being economically productive or even if they are involved in economically productive work that it is not of much consequence or concern. These assumptions, to say the least, are quite arguable.

Questions such as the following have seldom been raised: how do women adjust to major technological changes in the work of their menfolk; or what measures should be taken to draw women into the new situation created by technological changes. Indeed, women themselves have such low estimation about their work and its return, that they themselves are least concerned about their involvement (or the lack of it) in work, present or prospective. And still when circumstances so change as to deprive women of what little work they are able to do, it can affect certain households very adversely. Actually the shrinking figures of women's work participation in India since the turn of the century bear ample evidence to the fact that technological advance has tended to take work away from women. In spite of the clear evidence in this regard, still very little attention is paid to this aspect in most schemes and projects envisaging introduction of new technology. Is it any wonder, that the project meant principally to modernise fishing and fish preservation showed little concern for the women



of the households directly affected? Will it take work away from these women or create some new work opportunities for them? This is a question that the project did not concern itself with. The purpose of this study is to raise this question in retrospect. Having raised this question and attempted answers, the study goes on to ask what, if any, changes have come about in the women's fertility behaviour having lived through a major technological change for almost a generation.

Although the three original fishing villages chosen for the aforesaid modernisation project form a geographically compact block, the fishing folk of these villages are drawn from two quite distinct religious groups, Latin Catholic and Araya Hindu. The acceptance of technological change was distinctly different between these groups, although there can be genuine debate about the role of the religious factor behind this difference in acceptance.

It is upon the above background, that the present study concerns itself with the following major questions:

- 1) As a result of changes that have occurred in the technology of fishing, what change has occurred in the work status of women?
- 2) Is this change different for the two religious groups?
- 3) As a result of changes in women's work participation, has there been any change in the status and roles of women?
- 4) What change has occurred in the fertility behaviour of women from these fishing households?
- 5) Are there any differences or disparities that exist with regard to fertility behaviour between the two religious groups?

In order to answer the questions posed above, the present study relies principally on case studies. At the same time, use has been made of information available on the basis of surveys and censuses from these villages. In addition, new surveys were undertaken where it was found necessary to have supplementary information or to check information available from other surveys.

Case studies were mainly relied on in carrying out the present study. It was our feeling that while a sample survey would enable generalizations at the macro level, it is only through case studies that one gains insight into the real processes at work at the micro level. Both the approaches have their own drawbacks. One has always to strike a compromise. In this study, however, it was decided to rely principally on case studies for two reasons. Firstly, existing information, on the occupational status of fisherwomen and on their status and roles within the household available on the basis of various surveys and censuses of fishing households, is very scanty. A comprehensive survey of households to elicit all relevant information was beyond the scope of this study. Secondly, but not less importantly, it was felt that the impact of change which this study was focussing on could better be studied through intensive case studies. Of the various methods of conducting case studies, we have used the autobiographical method. Each principal respondent, who is invariably a fisherwoman, tells her own story, as reconstructed over a period of intensive contact with her, her household, her relations, friends, neighbours, employers, etc.

Choice of case studies

To start with, thirty fishing households were chosen on the basis of a random stratified sample; ten households were chosen from each of three villages. These households were chosen from lists of households obtained from the parish church records in the two Christian villages, and from the record of Araya Samithi (the caste association of Araya fishermen) in the Hindu village. The households were grouped according to the occupation/sub-occupation of the principal male workers in the household. Thus, men engaged in fishing were sub-divided according to whether the menfolk were owners of mechanized boats or traditional craft, or whether they worked as crew for mechanized boats or traditional craft. For each of the thirty chosen households, information was collected on family genealogy, including names, relationships of all relatives, age, place of birth, education, dowry, occupation, number of children born alive or dead, and family planning status. On average it was possible to collect information for each family or twenty-six related couples covering three generations. Thus, information was collected on 784 married couples in all. Though the preparation of genealogies was very time-consuming, it was found rewarding because it enabled us to fill in the gaps found in the information available at the macro level from other sources based on surveys and/or censuses covering the villages under study.

Only ten households were chosen out of the above thirty for biographical sketches. The distribution of these ten households over the occupational categories is given in the table that follows.

The decision to present only ten autobiographies, rather than all thirty which were collected, was made on a number of considerations. First, because of similarity there would have been a considerable amount of repetition. Also, a few of the households were not fully cooperative. That not every one is equally willing to put up, with personal questions week after week for a period of twelve to eighteen months is something that social scientists engaged in ethnographical work would readily appreciate. As a result, no doubt, a certain amount of arbitrariness can be said to have crept in the choice of the biographical sketches presented here. It must be added, however, that the choice of households for biographical study covers all major categories of working women in addition to a few non-working women. The biographical sketches presented in this report have to be viewed, nonetheless, in the background of the macro-level information that has been presented in this report.

Table 1-Distribution of case studies by principal male occupation

| Occupation/ Sub-occupation | Distribution of Thirty Case Study house- holds | Distribution of Ten Case Study households with reported biogra- phical sketches. |
|-------------------------------|---|---|
| Craft owners | | |
| (a) Traditional | 8 | 4 |
| (b) Mechanised | 5 | 2 |
| Crew | | |
| (a) Traditional | 6 | 1 |
| (b) Mechanised | 8 | 1 |
| Others | 3 | 2 |
| Total | 30 | 10 |

The organization of the report

Three chapters give the background information, (i) on the project that sought to introduce technological change in fishing and fish preservation and its aftermath, (ii) on the demographic profile of Kerala State as a whole, and (iii) on the profiles of the three fishing villages. In outlining the macro-level picture, full use is made of the information available from available surveys and census. Where necessary, use is also made of the survey information that was collected as part of the present study. The subsequent section consists of the ten biographies which can be said to constitute the core of this study. Each of the biographies is written up with the principal woman respondent relating her own life story. In the concluding part, an attempt is made to draw broad inferences from the biographical sketches in light of the background of the macro-level picture presented in the first part.

CHAPTER I

IMPACTS OF A FISHERIES DEVELOPMENT
PROJECT IN KERALA

Kerala is one of the leading maritime States in India. It has a long coastline of 590 kilometres and a network of rivers, lakes and water areas which make it ideal for fishing. The waters of Kerala also are by far the richest in the country. The intermixing of the nutrient laden waters from the 41 west flowing rivers with the seawater all along the coast is the reason for such a long stretch of fishable area. Kerala has a fishable area as large as that of the land surface of the State. The coastline is dotted with many protected bays, estuaries and natural harbours which provide excellent facilities for the launching and landing of fishing crafts. As a result, the coastline is dotted with 249 fishing villages, almost amounting to a village every $2\frac{1}{4}$ kilometres along the coastline.

The fishing population of Kerala as a whole amounts to about 770,000 forming 159,000 households. Thus one out of every thirty fishing households in the State is that of a fisherman. If we were to make a distinction between those who fish in the deep sea and those who fish in the inland waters, we have 114,000 as marine fishermen and 45,000 as inland fishing households, and there are about 160,000 active fishermen. The industry provides employment to another 350,000 persons. Fishing families belong to three major religious groups, namely, Hindus, Christians and Muslims. Though in the total population, these religious groups are distributed in the ratio of 60:20:20, in the fishing population, they are more or less relatively

evenly distributed, their ratio being 40:35:25. In other words, the fishing households form a major group particularly among the Christian and the Muslim households.

Importance of Fisheries

Fishing occupies an important place in the economy of Kerala, as:

- 1) it is an important source of food and protein;
- 2) it is a major avenue of employment; and
- 3) in recent years, it has become a major export industry.

Kerala's population is essentially a fish-eating population, the level of fish consumption in Kerala is four times the national average. Until very recently fish was a relatively cheap source of protein. In the early part of seventies, fish consumption stood at 15 k per capita per annum. This figure has, however, been declining but the fact remains that even in the humblest of households there is at least one meal with fish. Eggs, milk or meat rarely enter the diet. Fish remains an integral part of the food.

The people engaged in fisheries come under three distinct groups, (i) those employed in the actual catching of fish, (ii) those engaged in the processing, and (iii) those engaged in the making of fishing equipment such as craft and gear. There is some overlap between these groups but when one usually talks of fishermen, one is referring to people falling in the first group. With the high population pressure, low land-man ratio and high degree of unemployment in the State, fisheries are a great source of economic diversification.

Traditionally, there always existed some export of dried fish and prawn powder from Kerala to the South East Asian countries. This activity was, however, marginal. The major preoccupation was to meet the domestic consumption requirements of fish and that too largely for the population of the State and the border districts of the neighbouring State. In recent years, however, export of prawns has become a major economic activity and Kerala's share in it is very significant being as close to 50%. The total quantity of prawns exported went up by twelve times between 1963 and 1977. In terms of value, the expansion was by 40 times. Today, marine products rank as the third largest commodity export of the country with prawns accounting for over 90% of the value of such exports.

Indo-Norwegian Project

The Indo-Norwegian Project was one of the earliest external aid projects agreed upon after India became independent in August 1947. It also happened to be the first Scandinavian effort in India, reflecting the enthusiasm and motivation of the ruling labour party in Norway to extend concrete help to underdeveloped countries, in an area where not only could the Norwegians offer technical know-how on the basis of their own long experience, but also benefits which were most likely to reach the lower income groups of the countries being assisted.

Choice of Project

The Norwegians were anxious, and quite understandably so, that whatever aid they provided should have a clear focus in terms of economic activity, beneficiaries, and their location, and that it should

be concentrated, so that its effects could be visible within a reasonable period of time.

At the same time, since Kerala was a major maritime State of India with a sizeable part of its population depending on fishing for its livelihood, it was felt that the start could be made in Kerala. Also, around that time Kerala State itself was seriously considering the introduction of some amount of mechanisation in fishing.

Objectives of the Project

The primary objectives of this particular project were stated to be:

- (a) to bring about an increase in the income of the fishermen;
- (b) to introduce an efficient distribution of fresh fish and improvement of fish products;
- (c) to improve the health and sanitary conditions of the fishing population; and
- (d) to raise the standard of living of the community in the project area in general.

The fulfilment of the above objectives was to be promoted by the Project, principally through mechanisation of fishing. More concretely, the Project envisaged the following:

- (a) mechanisation of existing crafts;
- (b) introduction of a suitable new mechanized boat;
- (c) introduction of ice and improved freezing techniques for the preservation of fish; and
- (d) use of insulated vans in fish disposal.

Thus, the Project aimed at introducing simultaneously fundamental changes in boat and gear technology as well as in processing and marketing. With the introduction of these changes it was hoped

that the Project would, not only help in raising the living standards of fishermen, but bring about a local social and economic transformation as well.

The Project site

With a view to applying aid effort in a concentrated form, three spatially continuous fishing villages in the district of Quilon were selected for the purpose. The three villages covering in all an area of 25 square kilometres are located on National Highway 47 going from Cape Comorin to Salem (see map). The villages are located some 9 kilometres north of the city of Quilon. The three villages belong to two different Panchayats. While the larger one belongs to the Shakthikulangara Panchayat, the smaller two belong to the Neendakara Panchayat. The highway bridge constructed on the Ashtamudi lake connects Shakthikulangara with the other two to its north. All the three villages are also well connected by various link roads with the interior regions and other districts of the State. In terms of social composition, two villages, Shakthikulangara and Neendakara, are predominantly Latin Catholic and one, Puthenthura, is a Hindu fishing village.

Technological impact and change

It is nearly twenty seven years since the Project was launched in these villages and seventeen years since the Project was completed. During this period, a number of major changes have occurred in the economies of these villages, though not each village has been affected in the same way by these changes.

The foremost change has been in the technology of fishing in that, while in 1953 no mechanised boat was operated by the fishermen in these villages, the number currently operated by local fishermen is 419. On the other hand, there has been a steep decline during the same period in the number of traditional crafts operated by the fishermen of these villages. Table I.1 brings out the shift from traditional crafts to mechanised boats.

Table I.1

Operation of traditional and mechanised crafts
in the project area

| Year | Mechanized boats | Traditional Crafts | | |
|------|------------------|---|--|-----|
| | | Thangu vallom (large plank built craft) | Kochu vallom (small plank built craft) | |
| 1 | 1953 | - | 197 | 280 |
| 2 | 1959 | 63 | 123 | 260 |
| 3 | 1963 | 87 | 93 | 135 |
| 4 | 1976 | 144 | 35 | 48 |
| 5 | 1980 | 419 | 40 | 147 |

Note: 'Thangu vallom', the larger of the two types of craft can only be used in this area, is 40 feet long and carries a crew of 9 to 11 men. It operates a local purse-seine called 'Thangu vala'. The vessel currently costs around Rs.15,000.
'Kochu vallom', which is narrower and about 30 feet long, carries a crew of 4 to 6 men. It costs between Rs.5,000 and Rs.6,500.

Source: 1953 - The Norwegian India Project in Travancore-Cochin. Report No.2.A Statistical Survey of economic conditions in the Project area.
1959 - A census of the fisherfolk and the fishing implements of the Project area, 1959, p.29
1963 - A census of the fisherfolk and the fishing implements of the Project area.
1963 - Report of the Indo-Norwegian Project Area, Thankappan Asari and Devidas Menon, 1963, p.34.
1976 - Integrated Fisheries Development Project for Kerala. Neendakara Report, Part I, Government of Kerala, Development Department, 1976, p.5.
1980 - Information collected specially for this study.

The extent of change-over to mechanized fishing is reflected even more forcefully in the statistics of fish catch. The quantum of fish caught in the Project area in 1953 stood around 2,000 tons, all of which was the contribution of traditional craft. In 1968, the total catch was estimated at 12,800 tons. But, as can be seen from Table I.2, the contribution of the traditional crafts had declined to a mere 6.3 per cent of the total catch. In fact, the catch of the traditional craft had declined in absolute terms. Between 1968 and 1979, the catch contributed by mechanized craft had registered a further increase of a substantial order, even though during this period there were very wide fluctuations in annual catch, a matter which is a subject of considerable concern currently. It is quite clear that as far as the Project area is concerned, mechanised fishing has almost completely eclipsed the role of the traditional crafts. It was seen in 1976 that while the annual average landings in the Project area were around 29,000 tons, 28,300 tons were by mechanized boats. An important reason for the catch increasing so greatly in the Project area is that a very large number of boats from other districts ply here during certain months, particularly from June to September, considered the peak fishing seasons for the prawns. It is estimated that during this season, not less than 2,000 mechanised boats operate in this area and load their catch in the jetties located in the Neendakara fishing harbour.

Table I.2

Annual sea fish landings in Neendakara
(in '000 tons)

| Year | Total catch | Catch by mechanised crafts | Percentage of Col(3) to Col (2) |
|------|-------------|----------------------------|---------------------------------|
| (1) | (2) | (3) | (4) |
| 1953 | 2.00 | - | - |
| 1959 | 2.08 | 0.26 | 12.5 |
| 1960 | 2.79 | 0.71 | 25.4 |
| 1961 | 2.63 | 0.88 | 33.5 |
| 1962 | 1.30 | 0.64 | 49.2 |
| 1963 | 12.80 | 12.00 | 93.7 |
| 1970 | | 26.704 | |
| 1971 | | 31.493 | |
| 1972 | | 23.622 | |
| 1973 | | 66.064 | |
| 1974 | | 77.748 | |
| 1975 | | 1,51.095 | |
| 1976 | | 29.836 | |
| 1977 | | 45.828 | |
| 1978 | | 89.892 | |
| 1979 | | 56.016 | |
| 1980 | | 84,556 | |

1.

1. See: T. Asari and Menon, The Impact of the Indo-Norwegian project, 1969.
2. See: Neendakara Project Report, Integrated Fisheries Development Project for Kerala, Neendakara Project Report, Part I, Government of Kerala, Development Department, 1976.

Apart from the Neendakara Fishing Harbour being an all weather landing centre, it is particularly popular because of the occurrence of prawns in this area, especially during the months of June to August that is responsible for such overcrowding at this jetty. The catch from this area, particularly during the three months of July, August and September, have accounted for between half to three-fourths of the total catch of mechanized boats recorded at the various landing centres, totalling 23 in Kerala State. Table I.3 shows this clearly:

Table I.3

Percentage composition of catches of mechanised boats
at Neendakara in the total mechanised fishery of Kerala
during 1973 - 1979(in tonnes)

| Year | Total catch of mechanised boats in Kerala | Total catch of mechanised boats in Neendakara | Percentage of Neendakara catch to the all Kerala catch |
|------|---|---|---|
| 1973 | 93,659 | 66,064 | 70.54 |
| 1974 | 1,01,412 | 77,748 | 76.67 |
| 1975 | 1,80,717 | 1,51,095 | 83.89 |
| 1976 | 58,717 | 29,836 | 50.89 |
| 1977 | 1,07,424 | 45,828 | 42.66 |
| 1978 | 1,17,356 | 89,892 | 76.60 |
| 1979 | 95,191 | 56,016 | 58.85 |

Source: Fishermen Quarterly Journal, Vol.I, No.2, April-May-June 1980.
All Kerala Federation of Mechanised Fishing Boat Owners'
Association, Quilon.

Neendakara Harbour is perhaps the biggest landing centre in the country with the maximum number of boats engaged in shrimp trawling. Though the trawling operations are carried out almost throughout the year, a characteristic feature noticed in the area is that peak fishing activities are restricted to a brief period of two to three months which account for almost three-fourths of the annual catch. Hundreds of boats, not only from other parts of the State, but also from outside the State assemble here and temporarily camp until the season is over. Only during the rest of the year, the local boats are left to themselves to go out to fish for whatever is available in the sea. Of course, the traditional fishermen are always there but their operations have declined over the years in this area.

The Mix of Species

Before 1953, the fish caught in the Project area were sardine, butter fish and mackerel. On the introduction of mechanised boats, fishermen in the area started fishing for sharks and seer fish which lay in waters beyond the reach of the traditional craft. During the latter part of the sixties, however, the composition of the catch switched considerably in favour of the prawns. Today fishing for prawns altogether dominates the whole catch effort in Neendakara area.

Pre-occupation with prawn

It would not be an exaggeration to say that fishing in Neendakara area has come to stand for fishing for prawns. No doubt, some quantity of prawns were caught in this region prior to the introduction of mechanised fishing, but this was collected mainly in the back waters and paddy fields by traditional canoes and it comprised a very small portion of the total catch. Also the type of prawn caught then not only had very little export demand but also was not one of the sought after species domestically. Thus, there were occasions when there was an excess catch of prawns, a good part of which had to be left to rot, to be used as fertilizer for coconut trees. A small quantity of backwater shrimp was exported in the form of pulp or as dried fish to countries such as Burma and Sri Lanka. It was some time during the early sixties when one of the mechanised vessels "discovered" extensive grounds some 10 to 15 kilometres off the coast for catching shrimp. This coincided with the opening up of the markets abroad, first in the U.S.A. and subsequently in Japan. Prawn exports from

Neendakara area have seldom had to look back since then. The external demand for prawns has been large and growing. Neendakara area owes the expansion in its fishing activity almost entirely to this particular factor.

Table I.4

Trend in prawn production by mechanised boats
at Neendakara during 1973-1979

| Year | Total catch (tonnes) | Prawn catch (tonnes) | Percentage of prawns in total catch |
|------|----------------------|----------------------|-------------------------------------|
| 1973 | 66,064 | 45,477 | 68.8 |
| 1974 | 77,748 | 27,764 | 35.7 |
| 1975 | 1,51,095 | 56,750 | 37.6 |
| 1976 | 29,836 | 14,993 | 50.2 |
| 1977 | 45,828 | 24,121 | 52.6 |
| 1978 | 89,892 | 33,143 | 36.8 |
| 1979 | 56,016 | 14,582 | 26.0 |
| 1980 | 84,556 | 36,559 | 43.2 |

Source: Prospects of mechanised fishing in Kerala. Dr.M.I. George, Fisherman Quarterly Journal, Jan.-Feb.-Mar., 1980.

Accent on prawn

Fishing for prawns has come to dominate the scene in Neendakara. Although, as can be seen from Table I.5, the ratio of prawns to total annual landings has fluctuated rather widely from year to year, the overriding fact remains that the recent fishing activity revolves around the catching of prawns. All other species are only by-products of the fishing activity in Neendakara area. Notwithstanding the fact that recently the ratio of prawns to total catch had dropped to almost 25%--that too of a decline in absolute quantity of catch--Neendakara



area remains the most important centre in the country for prawn landings and is likely to remain so for years to come.

Prawn fishing in Neendakara area is carried out mostly in mechanised boats of up to 14 metre length, operating two to four sea shrimp trawls at depths up to 40 metres. These vessels go out on daily cruises, starting from the base early in the morning and returning in the evening.

Seasonality of operations

In theory, the trawling operations are carried out throughout the year, but a characteristic feature noticed in the area is that the peak fishing activities are concentrated in a short period of about three months during the South West monsoons, between June and September every year. Over 80% of the landings in Neendakara area are accounted for by this period. This lends a far more pronounced seasonality to trawling than is true for traditional fishing. For the latter, the best three months account for about 40 per cent of the yearly catch. The next best three months account for another 35 per cent. The worst three months account for only 8 per cent of the catch in a year.

Growth of freezing activity

There was virtually no freezing activity connected with fishing in the early fifties and before in Kerala State. The shrimps from inland waters were boiled in sea water or brine and dried or processed. The finished product was exported as prawn pulp, also called Burma pulp, Burma being the main export market. Prawn pulp was a low priced export article, and the prawn fisheries was not a very profitable type of

activity for the fishermen to engage in. As for other species, excess catch on peak days were always salted and dried. That was the traditional method of processing fish. Of course, not all species could easily be dried and processed. At the same time, there used to be considerable waste through spoilage and delay in transportation of fish to centres of consumption, particularly when these were located away from the sea coast.

Table I.5

Ice plants, freezing plants and capacity

| Year | Ice plants | | | Freezing plants | | |
|--------|------------|---------------------|------------------|-----------------|-------------------|-------------------------|
| | No. | Production (tonnes) | Storage (tonnes) | No. | Freezing capacity | Frozen storage capacity |
| 1 1953 | - | - | - | - | - | - |
| 2 1962 | 1 | 25 | 1,000 | 1 | 9 | 125 |
| 3 1968 | - | 83 | 385 | - | 37 | 400 |
| 4 1976 | 29 | 377 | 325 | 15 | 880 | 1,625 |

Source: 1) Integrated Fisheries Development Project for Kerala
 2) Neendakara Project Report, Part I, Government of Kerala, 1976, p.11.
 3) T.R.T. Asari, The Impact of the Indo-Norwegian Project on the growth and development of Indian Fisheries, 1969, p.10.

The use of ice for preserving fish had to be made popular and a climate of acceptance created. Once the use of ice was introduced, it also led to new methods of handling, processing and distribution. Today, ice is used extensively not only in the handling of prawns which are largely exported, but also in the preservation of other species. Even traditional fishermen and fisherwomen have taken to the use of

ice. Among the consuming public also there is an increasing acceptance of fish kept in ice, and the prejudice that even the slightest use of ice impinges on the freshness and taste of fish is wearing out fast.

When icing of fish was virtually unknown, the fish caught were unloaded and stored in heaps in the craft till it got back to the shore. This led to considerable spoilage of fish. Further spoilage occurred when the fresh fish were transported to hinterlands in open canoes or on cycles and lorries. Now mechanised vessels carry ice with them so that the catch can be iced immediately after it is taken out of the nets. As in the case of any fish, the persons buying prawns off the boats at the jetties see to it that they are iced forthwith. While prawns transported over long distances, as for example to Cochin port, are taken in refrigerated vans, other species are taken in trucks well stocked with ice. Table I.5 gives the figures for the growth in number of ice plants and freezing facilities in Kerala State over the period 1953 to 1976. In spite of phenomenal expansion, during the peak season there is a shortage of ice with the result that the price of ice fluctuates considerably in the course of a year. In fact, there are wide fluctuation from day to day, depending upon the catch on a particular day.

In summary, there is no doubt that as far as Neendakara area is concerned, fishing has undergone a revolutionary change in major respects, one in regard to the technology of fishing, next in regard to the composition of catch and third in regard to the technology of

fish preservation. Also, since prawns comprise a major part of fish catch and since they are largely exported, it has had downstream linkages in the form of prawn processing, refrigeration and transportation that were unknown to this area before.

It is in the light of the above changes that we shall discuss the demographic and economic changes that have occurred in the lives of women in the three villages closest to the Neendakara Harbour in the last twenty-five years.

CHAPTER II

DEMOGRAPHIC PROFILE OF KERALA STATE

Kerala State has a number of unique demographic characteristics. While it has the highest population density in the India, it also has the highest literacy rate (female as well as male), more women than men, the lowest mortality rates and the largest percentage of deliveries under institutional care in the country.

Population density

Though Kerala State occupies only 1.1 per cent of India's land area, it supports 3.9 per cent of its population. With 25.4 million people in 1981 Kerala's population density was 549 persons per square kilometre in 1971 and 654 persons per square kilometre in 1981. The latter figure is four times higher than in 1901 (see Table II.1). These figures compare to a population density in 1981 of 221 for the country as a whole.

Literacy level

In spite of its very high population density, the State of Kerala has been, throughout the current century, far ahead of the rest of the country in terms of the percentage of total population which can read and write (Table II.2). What is just as significant is that over the years the gap between the sexes in literacy has been narrowed considerably. Thus, while for India as a whole the female literacy rate is only one-half the male literacy rate, for Kerala

Table II.1

Population and population density,
Kerala and India, 1901-1981

| Year | Population in millions | | Density per sq.km. | |
|------|------------------------|--------|--------------------|-------|
| | Kerala | India | Kerala | India |
| 1901 | 6.89 | 238.39 | 165 | 73 |
| 1911 | 7.14 | 252.09 | 184 | 77 |
| 1921 | 7.80 | 251.32 | 201 | 77 |
| 1931 | 9.50 | 278.97 | 245 | 85 |
| 1941 | 11.03 | 318.66 | 284 | 97 |
| 1951 | 13.54 | 361.08 | 349 | 110 |
| 1961 | 16.90 | 439.23 | 435 | 134 |
| 1971 | 21.34 | 548.15 | 549 | 167 |
| 1981 | 25.40 | 683.81 | 654 | 221 |

Source: Census of India, 1981. Paper 1 of 1981 Provisional Population totals.

the female literacy rate is not only high in itself, being 64.5 per cent, but also quite close to the male literacy rate of 74 per cent. Moreover, rural-urban differentials in literacy levels are also quite narrow. For example, while the female literacy rate for the State as a whole was 53.9 per cent in 1971, the rate for the rural sector was 52.6 per cent. On the other hand, the female literacy rate was still rather low, for scheduled castes and tribes, the social groups identified in the Constitution of India for certain preferential treatment in view of their relative social and economic backwardness. These together comprise some 10 per cent of the State's population. In 1971,

the female literacy rate in Kerala was to 33.3 per cent for scheduled castes and 18.5 per cent for scheduled tribes.

Table II.2

Literacy rates, Kerala and India, 1901--1981

| Decade | Kerala | | India | |
|--------|--------|---------|-------|---------|
| | Males | Females | Males | Females |
| 1901 | 22.0 | 4.0 | 9.8 | 0.7 |
| 1911 | 26.0 | 5.0 | 10.6 | 1.1 |
| 1921 | 32.0 | 12.0 | 12.2 | 1.8 |
| 1931 | 37.0 | 14.0 | 15.6 | 2.9 |
| 1951 | 50.0 | 31.5 | 24.9 | 7.9 |
| 1961 | 54.2 | 38.4 | 34.4 | 12.9 |
| 1971 | 66.5 | 53.9 | 39.5 | 18.4 |
| 1981 | 74.0 | 64.5 | 46.7 | 24.9 |

Source: Census of India, 1981.

Population growth rates

As can be seen from Table II.3, the population in Kerala State has been rising consistently from one census period to another at rates faster than those experienced by the country as a whole from 1901 to 1971. Only in the decade just concluded, i.e., 1971-81, has the population in Kerala grown at a lower rate, and that too significantly so, than experienced in the country as a whole.

Table II.3

Intercensal rates of population growth in Kerala
and India, 1901--1981

| Decade | Decennial variation Percentage rate of increase | |
|----------|--|--------|
| | Kerala | India |
| 1901--11 | +11.75 | + 5.75 |
| 1911--21 | + 9.16 | - 0.31 |
| 1921--31 | +21.85 | +11.00 |
| 1931--41 | +16.04 | +14.22 |
| 1941--51 | +22.28 | +13.31 |
| 1951--61 | +24.76 | +21.51 |
| 1961--71 | +26.29 | +24.80 |
| 1971--81 | +19.00 | +24.75 |

Source: Census of India, 1981.

A principal reason for higher rates of growth of population in Kerala, particularly from 1941 to 1971, was a substantial drop in mortality rates without a corresponding decline in fertility rates. This can be seen from Table II.4.

While the death rate declined from 29.1 in 1931-40 to about 9 in 1970-71, (i.e., by approximately 20 points), the birth rate in the State declined from 40.0 to about 31 (i.e., by only approximately nine points) during the same period. During the decade of 1971-80, both the birth and death rate have registered further significant declines so that the birth and death rates were 25.9 and 6.9 per 1,000 in Kerala respectively in 1979, but the decline in birth rates

Table II.4

Birth and death rates in Kerala and India, 1931--1979

| Period/ Year | Births rates (per thousand) | | Death rates (per thousand) | |
|-----------------|--------------------------------|-------|-------------------------------|-------|
| | Kerala | India | Kerala | India |
| 1931--40 | 40.0 | 45.2 | 29.1 | 31.2 |
| 1941--50 | 39.8 | 39.9 | 22.3 | 27.4 |
| 1951--60 | 38.9 | 41.7 | 16.9 | 22.8 |
| 1968 | 33.2 | 39.0 | 10.0 | 16.8 |
| 1969 | 31.8 | 38.8 | 9.2 | 19.1 |
| 1970 | 31.6 | 36.8 | 9.2 | 15.7 |
| 1971 | 31.1 | 36.9 | 8.9 | 14.9 |
| 1972 | 31.2 | 36.6 | 9.2 | 16.9 |
| 1973 | 29.2 | 34.6 | 8.5 | 15.5 |
| 1974 | 26.8 | 34.5 | 7.8 | 14.5 |
| 1975 | 28.0 | 35.2 | 8.4 | 15.9 |
| 1976 | 27.8 | 34.4 | 8.1 | 15.0 |
| 1977 | 25.8 | 33.0 | 7.3 | 14.7 |
| 1978 | 25.2 | 33.3 | 7.0 | 14.2 |
| 1979 | 25.9 | 33.0 | 6.9 | 12.8 |

Source: State Planning Board, Economic Review, Kerala, 1979.

was more than twice as steep, measured in terms of percentage points, than that in death rates. Additionally, there has been sizeable net out migration of people from Kerala to both other States within India and other countries including the Gulf during recent years, particularly in the latter part of the 1971-80 decade. According to a recent employment survey conducted in the State, as many as half a million workers migrated outside the State during the first decade. Of these, 40% went abroad.

Sectoral changes in birth and death rates

Data have been collected, under a scheme of sample registration, of births and deaths in the entire country since 1965--66. These data which are believed to be accurate in Kerala show that birth and death rates in Kerala State declined not only in the urban sector, but also in the rural sector which accounts for some 80% of the State's population. Table II.5 shows that while birth rate fell from 34.3 per 1,000 population in 1968 to 26.1 in 1979, the decline in death rate in the rural sector during the same period was from 10.4 to 7.0, as a result the natural rate of increase in the rural population declined during this period from 2.39 per cent to 1.91 per cent. From the point of view of the present study, the demographic trends in the rural sector are more relevant because the fishing population of the State is almost entirely non urban.

Regional and religious differences

It is well known that the demographic parameters are different not only between religions but within a region among specific religious and socially disadvantaged groups. Hindus, Christians and Muslims are represented in the State's population in the ratio of 59:21:20. Among the Hindus, there exist caste divisions dating back over a thousand years. A few of the castes and tribes which are particularly disadvantaged have been identified in the Indian Constitution for preferential treatment in regard to certain matters of State policy. These groups are referred to as scheduled castes and

Table II.5

Birth and death rates in rural and urban
Kerala, 1966--1979

| Period/ Year | Birth rates | | Death rates | |
|-----------------|-------------|-------|-------------|-------|
| | Rural | Urban | Rural | Urban |
| 1966 | 37.4 | - | - | - |
| 1967 | 36.3 | - | - | - |
| 1968 | 34.3 | - | 10.4 | - |
| 1969 | 33.3 | - | - | - |
| 1970 | 32.3 | 30.1 | 9.2 | 8.8 |
| 1971 | 32.9 | 29.6 | 9.8 | 8.4 |
| 1972 | 32.1 | 29.3 | 9.4 | 7.8 |
| 1973 | 29.9 | 28.4 | 8.6 | 7.2 |
| 1974 | 27.0 | 26.9 | 8.0 | 7.0 |
| 1975 | 27.8 | 27.3 | 8.5 | 7.8 |
| 1976 | 28.1 | 26.5 | 8.2 | 7.6 |
| 1977 | 26.1 | 24.1 | 7.4 | 6.8 |
| 1978 | 25.3 | 24.9 | 7.1 | 6.7 |
| 1979 | 26.1 | 24.8 | - | - |

- Sources: 1. Statistics for Planning, Bureau of Economics and Statistics, 1977.
 2. Sample Registration Bulletin, V, VIII - No.2, 1974.
 3. Sample Registration Bulletin, V, XIV - No.2, December 1980.

tribes and comprise 10 per cent of Kerala's population. Fishing castes of Kerala State do not fall in the above category. They form part of what are referred to in the State as 'backward castes' comprising over one half of the Hindus in the State.

From Table II.6 it can be seen that birth rates differ greatly within the State between Hindus, Muslims and Christians and between highland and lowland and midland regions of the State.

Table II.6
Birth rates in Kerala state by region and religion, 1977

| Areas | Hindus | Muslims | Christians |
|----------|--------|---------|------------|
| Lowland | 22.38 | 35.99 | 20.12 |
| Midland | 23.96 | 26.31 | 18.83 |
| Highland | 28.27 | 35.64 | 21.78 |

Source: Sample Registration, Kerala No.15, Annual Report, 1977, Directorate of Economics and Statistics, Trivandrum.

We can see from Table II.7 that the number of beds per 100,000 population and the average area covered by medical centres varies considerably from region to region. This in turn seems to have affected the number of births attended with medical assistance, the death rate and the infant mortality rate in each region.

Table II.7

Accessibility and Utilisation of Medical Care and Mortality
Rates in the Natural Regions of
Kerala State

| | Lowland | Midland | Highland |
|---|---------|---------|----------|
| No. of beds per 1,000 population (1970-71) | 142.00 | 87.00 | 46.00 |
| Average area covered by medical centres (1970-71) | 29.40 | 65.40 | 101.90 |
| Percentage of deliveries availing of medical assistance (Rural Sector 1977) | 70.00 | 54.00 | 29.00 |
| Death rate per 1,000 population (Rural, 1977) | 7.40 | 7.29 | 8.42 |
| Infant deaths per 1,000 live births (Rural, 1977) | 44.90 | 46.60 | 71.40 |

Source : (1) Demographic Transition in Kerala, Facts and Factors, T.N. Krishnan, Economic and Political Weekly, Special Number, August, 1976.

(2) Sample Registration, Kerala No.15, Annual Report, 1977, Directorate of Economics and Statistics, Trivandrum.

Sex ratio

The sex ratio is the number of women per 1,000 males. From Table II.8, we can see that not only has the ratio of women to men in Kerala always been higher than for the country as a whole throughout the present century, but that it has always been in favour of women - unlike the ratio for all-India.

Table II.8

Sex ratio in Kerala and India, 1901 to 1981

| Year | Number of women per 1,000 men | |
|------|-------------------------------|-------|
| | Kerala | India |
| 1901 | 1,004 | 972 |
| 1911 | 1,008 | 964 |
| 1921 | 1,011 | 956 |
| 1931 | 1,022 | 950 |
| 1941 | 1,027 | 945 |
| 1951 | 1,028 | 946 |
| 1961 | 1,022 | 941 |
| 1971 | 1,016 | 930 |
| 1981 | 1,034 | 935 |

Source: Census of India, 1981, Series 10, Kerala, Provisional Population Totals.

However, when one looks at the sex ratio among the fishing population it cannot escape one's notice that there is a clear deficiency of women among fisherfolk. Table II.9 compares the sex ratio among fisherfolk in the various districts, where they are concentrated, with the corresponding sex ratio for the total rural population of each of these districts. As the rural sex ratio for the lowland region of Kerala is somewhat higher (1,027 as against 1,019) than for the rural sector of the State taken as a whole. For purposes of comparing the sex ratio among fisherfolk, it is the rural ratio in the lowland region which should serve as a more appropriate yardstick since practically all fishing habitations in the State are located in that region.

Table II.9

Sex ratio (females per thousand males) among the fishing
in the various districts of Kerala state
1971

| District | Fishing population | Rural population |
|--------------|-----------------------|---------------------|
| (1) | (2) | (3) |
| Trivandrum | 978.8 | 1,011 |
| Quilon | 976.7 | 1,002 |
| Alleppey | 969.2 | 1,029 |
| Kottayam | 952.7 | 976 |
| Trichur | 993.0 | 1,067 |
| Kozhikode | 964.6 | 990 |
| Cannanore | 988.1 | 1,018 |
| Kerala State | 974.7 | 1,019 |

Source: Col.2: Fisheries Development in Kerala State
(1980-83), Government of Kerala, 1980
Col.3: Census of India, 1971.

Female age at marriage

Although there continues to be disagreement among demographers whether or not small changes in the female age at marriage exercises a major influence on the birth rate, according to a recent study of the demographic trends in Kerala during the period 1959 to 1971, changes in the nuptiality rate (which is significantly related to age at marriage) accounted for as much as 70 per cent of the decline in fertility rate during that period (Fao, 1978). The higher age at

marriage evidently reflects itself in the proportion of women actually married. Thus, while in the country as a whole, 70 per cent of the rural women in the age-group 15--19 were married in 1969, the corresponding percentage was only 30 per cent for Kerala. Also, it cannot be ignored that this increase in the female age at marriage could have had a positive effect on the health status of women and children. Women exposed to child bearing at tender ages seem to show higher frequencies of still births and loss of first order births. Also, such women are more exposed to maternal mortality.

As can be seen from Table II.10, the age at marriage for women has always been higher in Kerala State than in the rest of the country.

Table II.10

Mean female age at marriage in Kerala and India,
1901 - 10 to 1961-70

| Decade | Kerala | India |
|-------------|--------|-------|
| 1901 - 1910 | 17.13 | 13.2 |
| 1911 - 1920 | 17.35 | 13.6 |
| 1921 - 1930 | 17.80 | 12.6 |
| 1931 - 1940 | 19.66 | 15.0 |
| 1941 - 1950 | 19.33 | 15.4 |
| 1951 - 1960 | 19.85 | 16.1 |
| 1961 - 1970 | 20.88 | 17.2 |

Source: 1. Women in Kerala, State Bureau of Economics and Statistics, 1978.

2. Towards Equality, Report of the Committee on the Status of women. 1974.

It can be noted also that the female age at marriage in Kerala has been rising from decade to decade so that the average for the State was already close to 21 years in 1971. As for the female age at marriage among fishing communities, information at the disaggregated level is unfortunately not available. So it is not possible to say whether girls from fishing households tend to marry earlier or later than girls from other households in the State.

Marital fertility and family planning

Assuming that changes in marital fertility can occur principally as a result of conscious control, the extent of decline in fertility should depend crucially on the proportion of married couples practising such control. According to information available on the spread of contraception in Kerala State, while about 4 per cent of the eligible couples were practising fertility control in 1965, the proportion had risen to about 26 per cent in 1975-76, and to over 40 per cent in 1980-81 (see Table II.11). Of the total number of couples protected by various methods of contraception, 98% relied on sterilization in 1981.

Characteristics of sterilizations

As can be seen from Table II.12, of the sterilizations performed between 1970-71 and 1979-80, male sterilizations account for 50 per cent of the total. In the preceding decade of 1960 to 1969, however, male sterilizations accounted for 79 per cent of the total sterilizations performed in the State. In more recent years, there is an even

Table II.11

Percentage of couples protected by various family planning methods in Kerala State

| Year | Number of couples at mid-year (in million) | Number of couples protected (in million) | Percentage protected by | | | Total |
|---------|--|--|-------------------------|------|---------------|-------|
| | | | Sterilization | IUCD | Other methods | |
| 1965-66 | 2.74 | 0.12 | 3.69 | 0.65 | - | 4.34 |
| 1970-71 | 3.07 | 0.48 | 12.37 | 2.86 | 0.31 | 15.54 |
| 1975-76 | 3.14 | 0.89 | 23.82 | 2.02 | - | 25.84 |
| 1979-80 | 3.50 | 1.90 | 29.80 | 1.18 | 0.26 | 31.24 |

Source: Statistics for Planning, State Bureau of Economics and Statistics, 1977, Figures for 1979 - 80 were obtained from an unpublished document of the State Bureau.

more noticeable shift towards female sterilizations. During the three years 1977-78 to 1979-80, over 80 per cent of the total sterilizations in the State were female sterilizations.

Table II.12

Male and female sterilizations in Kerala State,
1960-61 to 1979-80

| Year | Male sterilizations | Female sterilizations | Total number of sterilizations | Female sterilizations as percentage of the total |
|----------|---------------------|-----------------------|--------------------------------|--|
| 1960--69 | 264,673 | 69,835 | 334,508 | 20.9 |
| 1970--79 | 526,139 | 533,296 | 1,059,435 | 50.3 |
| 1976--77 | 129,829 | 84,566 | 214,395 | 39.4 |
| 1977--78 | 15,188 | 67,225 | 82,413 | 81.6 |
| 1978--79 | 15,190 | 75,092 | 90,282 | 83.2 |
| 1979-80 | 14,335 | 84,691 | 99,026 | 85.6 |

Source: Economic Review, State Planning Board, various issues.

There is evidence that women in Kerala have tended to go in for sterilization at an earlier age than men. According to the studies referred to above, it was found that on the whole the percentage of younger people accepting sterilization was steadily increasing, among the sterilized persons, the percentage of women who underwent the operation before completing the age of 30 already as high as 66.7 in 1973-74 as against 48.8 for men undergoing sterilization. The corresponding percentages for the period, 1957-67 were 44.5 for women and 8.1 for men undergoing sterilization (see Table II.13).

Table II.13

Percentage of sterilized persons according to age in Kerala,
1967-68, 1970-71, 1973-74

| Year | A G E | | | | | | | | | | | |
|---------|-------|-----|-------|------|-------|------|-------|------|-------|------|------|-----|
| | 15-19 | | 20-24 | | 25-29 | | 30-34 | | 35-39 | | 40+ | |
| | M | F | M | F | M | F | M | F | M | F | M | F |
| 1967-68 | - | 0.3 | 0.6 | 12.1 | 9.3 | 37.1 | 21.6 | 22.9 | 28.6 | 16.8 | 39.9 | 3.7 |
| 1970-71 | 0.1 | 0.1 | 2.1 | 17.7 | 16.1 | 38.3 | 24.3 | 26.8 | 27.1 | 14.2 | 30.3 | 3.7 |
| 1973-74 | - | 0.4 | 1.6 | 23.1 | 19.9 | 43.1 | 27.3 | 21.1 | 27.9 | 10.5 | 23.2 | 1.1 |

M - Male

F - Female

Source: Women in Kerala, State Bureau of Economics & Statistics, 1977.

The same studies also show that the percentage of persons accepting sterilization after having three or less living children have been on the increase (see Table II.14), while the percentage of such persons was 25.4 in 1957-61, it had risen to 55.3 in 1973-74. As between the sexes, while the average number of living children was 3.29 for a sterilized man, it was 3.71 for a sterilized woman in 1973-74. Also, over the years, there was a noticeable falling trend in the average number of living children per sterilized woman as well as men in Kerala. By 1973-74, as many as 20.5 per cent of persons opting for sterilization had only two or less living children.

Table II.14

Percentage distribution of sterilized persons according to number of children living - Kerala, 1967, 1968, 1970-71, 1973-74

| Year | One child | Two children | Three or more children |
|---------|-----------|--------------|------------------------|
| 1967-68 | 0.9 | 14.9 | 26.9 |
| 1970-71 | 1.2 | 19.5 | 28.7 |
| 1973-74 | 1.4 | 19.1 | 34.8 |

Source: Women in Kerala, State Bureau of Economic & Statistics, 1978.

Religious factor

Studies by the State's Demographic Research Centre of the distribution of sterilized persons by major religious groups showed that while the acceptance of sterilization among the Hindus was higher, it was particularly low among the Muslims. However, while acceptance

of sterilization seems to have been increasing among the Muslims, it seems to be declining somewhat among the Christians. Table II.15 brings out these trends.

Table II.15

Percentage distribution of sterilizations by religion,
1961, 1970-71 to 1973-74

| Year | Religion | | |
|---------------------------|----------|------------|---------|
| | Hindus | Christians | Muslims |
| 1961 | 74.2 | 20.2 | 5.2 |
| 1970-71 | 72.4 | 19.3 | 8.4 |
| 1971-72 | 67.0 | 23.9 | 9.1 |
| 1972-73 | 70.9 | 19.4 | 9.6 |
| 1973-74 | 72.9 | 16.1 | 11.0 |
| Population weights (1971) | 69.4 | 21.1 | 1.5 |

Source: A Study of Sterilized Persons in Kerala, 1957-71 and 1971-74, Demographic Research Centre, B.E.S., Kerala, August, 1977.

Concluding observations

It should be clear from the available demographic indices that population growth in Kerala has turned the corner already and is beginning to decelerate. Mortality rates have been low and falling for some decades. Lately, however, birth rates have also started declining fast enough to bring down the overall growth rate of the State's population. Nonetheless, there still are pockets in the State among its religious and social groups which are yet to join fully the mainstream of events.

This study which concentrates on a few fishing villages with different religious composition should throw up questions and issues that would need attention in order to assimilate not only the fishing population but also other low income groups into these demographic trends. The village profiles and case studies which follow hopefully will throw light in that direction.

CHAPTER III

PROFILE OF PROJECT VILLAGES

This chapter is divided into four parts. The first part attempts to present a total picture of the Project area and compares and contrasts the demographic position, as it has evolved over the years since the Project was started in 1953, in the three Project villages. In the subsequent three parts is presented a short sketch of each of the villages with the focus principally on the fishing households in each village. These sketches would, it is hoped, serve as a useful background to the individual profiles which follow this chapter.

I

The three fishing villages chosen for the introduction of mechanized fishing, under the Norwegian Aid Programmes, are located in the district of Quilon, between 10 to 12 kilometres north of Quilon town. The villages are spatially distributed in a continuum on National Highway 47, going south from Ernakulam to Cape Comorin. First comes Puthenthura and then Neendakara. Both of these villages are located on the northern side of the highway bridge, known by the name of Neendakara Bridge, and the third village, Sakthikulangara comes soon after one crosses the bridge, going southwards. This bridge is built over an inlet from the sea to the backwaters that run continuously almost all along the coast of Kerala. The backwaters are separated and protected from the ocean by land usually varying in distance of between a couple of hundred metres to a couple of kilometres, except for occasional inlets which connect the backwaters to the sea. The

vast stretch of water to the east of the bridge is known as Ashtamudi Lake because the water from here branches off into eight inland creeks. As can be seen from the accompanying map 1, Neendakara Bridge is quite central to the project area.

The three villages, Puthenthura, Neendakara and Sakthikulangara fall into two karas^{1/} the first two in the kara of Neendakara and the third in the kara of Sakthikulangara. The karas are the smallest units for which separate population figures are available from the decennial population censuses.

Population of the karas

Table 3.1 sets out important figures from the censuses relating to the karas of Neendakara and Sakthikulangara. The figures for Neendakara cover Puthenthura also. We can see that while Neendakara was only marginally bigger than Sakthikulangara in 1951, its population in 1971 was larger than that of Sakthikulangara by a little over 38%. Although population figures are not yet forthcoming from the 1981 censuses, there is reason to believe, judging by the expansion in the fishing population to which a reference is made below, the rate of population growth in the decade of 1971-80 also has probably been much higher in Neendakara than in Sakthikulangara.

1/ One kara may cover one or more villages. In Sakthikulangara kara, there is only the village of Sakthikulangara whereas in Neendakara fall a number of small villages including Neendakara and Puthenthura, But kara is not an administrative unit. The smallest administrative unit in the countryside is panchayat which again may cover one or more villages.

Table III.1

Population, sex ratio and literacy rates in Sakthikulangara and Neendakara, 1951, 1961 and 1971

| | Sakthikulangara | | | Neendakara | | |
|------------------------|-----------------|------|------|------------|------|-------|
| | 1951 | 1961 | 1971 | 1951 | 1961 | 1971 |
| Population | 5270 | 6732 | 8664 | 5887 | 8745 | 11887 |
| Population growth rate | | 27.7 | 28.6 | | 48.5 | 35.9 |
| Sex ratio* | 925 | 943 | 914 | 940 | 958 | 956 |
| Male literacy rate | 56.5 | 54.1 | 68.9 | 60.5 | 60.4 | 73.1 |
| Female literacy rate | 39.4 | 36.2 | 57.1 | 43.5 | 53.2 | 67.7 |

* Ratio of women to 1,000 men.

Source: Census of India, District Census Handbooks of 1951, 1961 and 1971.

It is also worthwhile noting that in both the karas, men outnumber women. But while in Neendakara the sex ratio has been improving over the years, this has not been so in Sakthikulangara. As regards literacy, both the karas have shown not only considerable improvement in the levels of male as well as female literacy, but also a narrowing of the gap between the sexes. Again, the gap is narrower in Neendakara than Sakthikulangara.

Fishing population

The fishing population is concentrated in certain parts of the two karas. In Neendakara, the village of Puthenthura is almost entirely a fishing village. In the village of Neendakara proper,

fishermen were concentrated mostly on the western side of the highway, close to the sea coast, though, in recent years, they have spilled over to the east of the highway. Still, on the eastern side live mostly non-fishing families. In Sakthikulangara also, fishing families are concentrated very largely on the western side of the highway.

The decennial censuses do not give separate demographic details about the fishing population. However, on the selection of the above three villages for Norwegian aid, a sample survey was undertaken in 1953 of the localities where fishing families were concentrated. According to this survey, out of a total population in the two karas of about 12,000 the number living by fishing was 3,800, i.e., about 31.7 per cent. After six years, i.e., in 1959, a census was taken of the fishing households of the Project area and it was found that of the total population of 14,217 the fishing population was 4,543, i.e., 32.4 per cent. A subsequent survey in 1963 estimated the fishing population in the Project area as 4,752, forming only 30 per cent of the total population. From a most recent survey conducted in 1978 under the auspices of the State Government of Kerala, it has also been possible to estimate the fishing population of the three villages coming within the Project area. Table III.2 gives these figures along with the comparable information available from earlier surveys and censuses.

It can be seen that over a 25-year period minimum expansion in fishing population has taken place in Sakthikulangara and maximum in Neendakara, the village just across the highway bridge.

Table III.2

Fishing population in project villages,
1953, 1959, 1963 and 1978

| Village | 1953 | 1959 | 1963 | 1978 | Ratio of change between 1953 and 1958 % |
|----------------------|--------|--------|--------|--------|---|
| Sakthikulangara | 1,900 | 2,255 | 2,204 | 3,144 | 65.5 |
| Neendakara | 646 | 2,288 | 2,548 | 3,282 | 408.0 |
| Puthenthura | 1,254 | | | | |
| Total | 3,800 | 4,543 | 4,752 | 9,033 | 111.9 |
| (Percent of village) | (31.7) | (32.4) | (30.0) | (36.1) | |

Note: Figures in brackets are of the total fishing population as percentage of the total population in the project area.

- Sources: (1) A Statistical Survey of Economic Conditions in the Project Area prepared by P.Bog, The Norwegian India Project in Travancore-Cochin, Report No.2, 1954.
- (2) A Census of the Fisherfolk and Fishing Implements of the Project Area, 1959, Indo-Norwegian Project Standing Committee, 1960
- (3) A Study on the Impact of Mechanization of Fishing on the Economy of the Fishing Folk of the Project Area, Indo-Norwegian Project, 1964
- (4) Socio-Economic Survey of Fishermen in Kerala State (1978). (These figures were worked out and supplied to the author, on request by the Department of Fisheries, Government of Kerala.)

Also, it would appear that fishing population grew particularly fast in Neendakara in the 15-year period, 1963 to 1978. Evidently, Neendakara Village has been able to absorb the maximum impact of immigration into the Project area in the wake of increased economic activity, evidence for which has been quite abundant.

Religious composition of the fishing households

One clear distinction that can be drawn between the fishermen of Sakthikulangara and Neendakara on the one hand and the fishermen of Puthenthura on the other is in terms of religion. In the former two villages, fishermen are predominantly Christians, belonging to the Latin Catholic church. In the latter village, Puthenthura, which, though a part of the kara of Neendakara, the fishermen are almost exclusively Hindus. They belong to the Araya caste, a backward caste in the State, whose members specialize in fishing and allied activities. Table III.3 sets out the religious composition of the fishing households in each of the three villages:

Table III.3

Religious composition of fishing households, 1978: percentage distribution

| | Total number of households | Christians (Latin Catholics) % | Muslims % | Hindus (Arayas) % | Total % |
|-----------------|----------------------------|-----------------------------------|--------------|----------------------|------------|
| Sakthikulangara | 533 | 90.0 | 0.7 | 9.3 | 100 |
| Neendakara | 564 | 85.5 | 0.5 | 14.0 | 100 |
| Puthenthura | 464 | 5.1 | 0.5 | 94.4 | 100 |

Sex ratio

An aspect of the fishing population of the State as a whole, that was mentioned in the preceding chapter, is that there is a deficiency of women in fishing households. The 1953 survey of the three project villages showed that the sex ratio for each of them was rather low. But it was the lowest for the predominantly Hindu fishing village of Puthenthura. However, as can be seen from Table III.4, since 1953 the sex ratio has improved considerably in all the three villages. As a result, the sex ratio in 1978 was already higher than the sex ratio for the country as a whole in 1981.

Table III.4

Sex ratio in project villages, 1953, 1959, 1963 and 1978

| Village | 1953 | 1959 | 1963 | 1978 |
|------------------------|------|------|------|------|
| Sakthikulangara | 878 | 873 | 868 | 961 |
| Neendakara | 892 | 888 | 900 | 938 |
| Puthenthura | 858 | | | |
| Kerala State | | | | |
| (1) Total population | 1028 | | 1022 | 1034 |
| (2) Fishing population | | | | 975 |
| India | 946 | | 941 | 935 |

Note: Figures for Kerala State (Total population) and India are for the Census years, 1951, 1961 and 1981.

Source:

Average Household Size

Table III.5 indicates the change in the size of fishing households over the 25-year period from 1953 to 1978. The factors behind this change are mainly changes in completed family size and in the prevalence of extended family. The average number of persons per fishing household showed a tendency to increase during the period 1953 to 1963. Thereafter, average household size declined in all three Project villages. Significantly, the decline was maximum in the Hindu village of Puthenthura.

Table III.5

Average size of fishing households in project villages,
1953, 1959, 1963 and 1978

| | 1953 | 1959 | 1963 | 1978 |
|-----------------|------|------|------|------|
| Sakthikulangara | 5.6 | 5.8 | 6.5 | 5.9 |
| Neendakara | 4.8 | 6.5 | 6.6 | 5.8 |
| Puthenthura | 6.2 | | | |

Table III.6 giving the distribution of fishing households according to size confirms the earlier observation about change having affected all the three Project villages. While in Sakthikulangara and Neendakara the percent of households of larger size increased, the same decreased in Puthenthura. The increase was particularly significant in Neendakara where the large or very large households increased from 20 per cent in 1953 to 45 per cent in 1978. Thus, in the predominantly Christian villages of Sakthikulangara and

Neendakara, the proportion of households with six persons or less has come down over the 25-year period, 1953 to 1978. The decline is particularly noticeable in Neendakara, the village which, as was noted above, experienced a very sharp increase in its fishing population during the same period. With a great deal of movement of people into this village, possibly the households already existing have had to accommodate friends and relatives on a much larger scale than in the other two villages. In the Hindu village of Puthenthura the percent of households of six persons or less remained at 65 per cent.

Table III.6

Distribution of fishing households by size groups in project villages, 1953 and 1978

| | Sakthi- Mullangara | | Neendakara | | Puthenthura | |
|---------------------------|-----------------------|------|------------|------|-------------|------|
| | 1953 | 1978 | 1953 | 1978 | 1953 | 1978 |
| Small (3 members or less) | 13 | 15 | 22 | 10 | 14 | 20 |
| Medium (4-6 members) | 58 | 48 | 53 | 45 | 51 | 45 |
| Large (7-10 members) | 25 | 30 | 17 | 31 | 24 | 27 |
| Very large (10 or more) | 4 | 7 | 3 | 14 | 11 | 8 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

Housing conditions

It is interesting to note that the three Project villages differed from each other in regard to housing conditions right from the start of the Project and that housing differences have continued

to persist. This can be seen from Table III.7, which gives the distribution of fishing households by major dwelling types. While only 57 per cent of the fishing households of Sakthikulangara lived in huts in 1953, the corresponding percentages for Neendakara and Puthenthura were 82 and 70 respectively. The percentage of hut dwellers has declined in all the three villages, but the lowest percentage still is in Sakthikulangara. It is also significant that in 1978 one out of every four fishing households lives in a pucca house. The rate of change in Puthenthura is quite impressive. The percentage of hut dwellers in Puthenthura declined from 70 in 1953 to 48 in 1978. This possibly came about as a result of the choice of the village for a State Government's project for the construction of 100 new houses for fishermen.

Table III.7 -

Percentage distribution of fishing households in project villages by type of dwellings

| Type of dwelling | Sakthikulangara | | Neendakara | | Puthenthura | |
|------------------|-----------------|------|------------|------|-------------|------|
| | 1953 | 1978 | 1953 | 1978 | 1953 | 1978 |
| Huts | 57 | 37 | 82 | 66 | 70 | 48 |
| Kutcha | 28 | 36 | 11 | 23 | 21 | *46 |
| Pucca | 15 | 27 | 7 | 11 | 9 | * 6 |

Note: While huts are made entirely of thatch, kutcha houses may have brick or mud walls with thatched roof and pucca houses have brick walls with tiled or concrete roofs.

Strictly speaking, the new houses put up under a Government housing scheme for fishermen should be classified as 'pucca' having brick walls and tiled roofs. If a correction were made for this, the percentage of kucha houses would decline to 25 and that of pucca houses would go up to 29.

Literacy ratios

One of the indices ordinarily used for ascertaining the position of a group in the socio-economic scale is the percent of literates in the population. Since fishermen, as a group, are known to be backward, it would be expected that their literacy rate would be lower than among the populace as a whole. This, however, is not quite borne out by the information available with respect to the fishing population in the Project area.

Table III.8

Literacy rates (total male and female) in project Karas and rural Quilon, 1951, 1961 and 1971

| | 1951 | | | 1961 | | | 1971 | | |
|-----------------|------|------|------|------|------|------|------|------|------|
| | T | M | F | T | M | F | T | M | F |
| Sakthikulangara | 48.3 | 56.6 | 39.4 | 45.5 | 54.2 | 36.3 | 63.3 | 68.9 | 57.1 |
| Neendakara | 52.3 | 60.5 | 43.5 | 57.8 | 64.5 | 53.2 | 69.0 | 73.1 | 64.7 |
| Quilon (Rural) | 48.2 | 57.3 | 39.3 | 49.4 | 57.2 | 42.7 | 64.8 | 69.9 | 59.6 |

T = Total, M = Male, F = Female.

Source:

According to the information from the decennial censuses of population, as presented in Table III.8, it can be seen that in both karas literacy rates were close to or above the corresponding ratios for Quilon District (Rural). In both karas there was also a marked improvement in the female literacy rate during the 20-year period, 1951-1971. In Sakthikulangara, however, the gain in female literacy was achieved entirely in the decade of 1961-1971.

The earliest separate estimate of the literacy rate among fishermen is available for 1959 when, as stated above, a census of fisherfolk of the Project area was conducted under the auspices of the Project authorities. This was followed by a sample survey of the fishermen areas in 1963. The information collected on changes in literacy among the fisher community is given in Table III.9

Table III.9

Literacy rates among fishermen of the project Karas, 1959 and 1963

| Village | Fishermen | | | | | | All population | | |
|-----------------|-----------|------|------|------|------|------|----------------|------|------|
| | 1959 | | | 1963 | | | 1961 | | |
| | T | M | F | T | M | F | T | M | F |
| Sakthikulangara | 52.9 | 61.3 | 43.3 | 53.5 | 62.3 | 43.4 | 45.5 | 54.2 | 36.3 |
| Neendakara | 63.2 | 68.6 | 57.1 | 55.6 | 60.4 | 53.3 | 57.8 | 64.5 | 53.2 |

T = Total, M = Male, F = Female

Source: Census 1961, Kerala State, District Census Handbook, 8 - Quilon, 1967.

It can be seen that with respect to Neendakara, literacy rates for 1959 were significantly higher than those for 1963. It is difficult however to accept that within a short period of four years, literacy ratios could have suffered such declines. Since the census results are likely to be more correct than estimates based on a sample survey, the 1959 literacy ratios can be taken to be more accurate. That being so, it is reasonable to say that the literacy

Work participation and occupational distribution

It can be seen from Table III.11 that work participation rates are higher for both men and women in Puthenthura than in Sakthikulangara and Neendakara. The gap is particularly noticeable with respect to women.

Table III.11

Male and female work participation rates in three project villages, 1978

| | Sakthikulangara | | Neendakara | | Puthenthura | |
|-------------|-----------------|-------|------------|-------|-------------|-------|
| | M | F | M | F | M | F |
| Working | 55.2 | 13.2 | 53.5 | 17.2 | 61.0 | 44.0 |
| Non-working | 44.8 | 86.8 | 46.5 | 82.8 | 39.0 | 56.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

It was noted above that illiteracy was also minimum in Puthenthura. But can higher work participation among women be attributed largely to higher literacy rate? If so, how does one explain the higher work participation in Neendakara than in Sakthikulangara although the former has very much lower rate of female literacy? Clearly, differences in literacy rates do not quite explain the inter village differences in female work participation.

Civil condition

An attempt was made to see if there were any differences the villages in the civil condition of women who worked. As can be seen from Table III.12, even though in all the three villages approximately 70 per cent of the working women are married, the proportion of

never married women in the work force is much higher in Puthenthura than in the other two villages. Is that a reflection of the relative prosperity of the latter village compared to the other villages? From the earlier survey done by Bog, it was found that most women who took to work were widows or separated. There seems to be a change in this regard in all the three villages.

Table III.12

Percentage distribution of working women by civil condition, 1978

| Civil condition | Sakthikulangara | Neendakara | Puthenthura |
|------------------------------|-----------------|------------|-------------|
| Married | 79.8 | 70.1 | 68.5 |
| Widow/Divorced/ separated | 13.1 | 12.4 | 9.0 |
| Unmarried | 7.1 | 17.5 | 22.5 |
| Total | 100.0 | 100.0 | 100.0 |

Occupational Distribution

The distribution of men in both Sakthikulangara and Neendakara from fishing households by nature of the work, they do present in Table III.13, shows that while more than 50% of them are engaged on mechanized fishing, only 20% or so are in traditional fishing. In Puthenthura, on the other hand, close to 60% are engaged in traditional fishing and less than 15% in mechanised fishing. Surprising is, that there is twice as much concentration of boat owners in Sakthikulangara as in Neendakara where traditional fishing is common. Those owning mechanized boats in Puthenthura are very few.

Not only is boat ownership concentrated in Sakthikulangara, also its distribution pattern is quite uneven. It can be seen from Table III.14 that 86% of the mechanized boats owned in the project area are owned by the people in Sakthikulangara. But of the boats owned in Sakthikulangara, close to 60% are owned by persons owning two or more boats. In Neendakara and Puthenthura combined, on the other hand, the corresponding proportion is 19%. It would be reasonably safe to say, therefore, that while Sakthikulangara has benefited more from the mechanization of boats, economic inequalities have, at the same time increased.

Table III.13

Distribution of working fishermen in project villages by nature of work, 1978

| Occupation | Sakthi- kulangara | Neenda- kara | Puthen- thura |
|--|----------------------|-----------------|------------------|
| I. Mechanized fishing | 56.5 | 56.0 | 12.7 |
| (i) Deck hand | 26.6 | 32.1 | 8.9 |
| (ii) Drivers | 12.6 | 15.7 | 2.8 |
| (iii) Boat owners | 17.3 | 8.2 | 1.0 |
| II. Fish businessmen and related activities | 5.8 | 12.0 | 7.2 |
| III. Traditional fishing | 23.0 | 21.3 | 68.1 |
| (i) Vallom owners | 13.1 | 3.6 | 10.6 |
| (ii) Wage workers | 9.0 | 9.1 | 56.7 |
| (iii) Cast net | 0.2 | 8.3 | 0.1 |
| (iv) Net making | 0.7 | 0.3 | 0.7 |
| IV. Permanent employment | 13.5 | 7.2 | 9.4 |
| V. Others (tailors, tea shop) | 1.2 | 3.5 | 2.6 |
| Total | 100.0 | 100.0 | 100.0 |

Table III.14

Ownership distribution of mechanized boats in
three project villages

| Number of boats owned | Sakthi- kulangara | Neenda- kara | Puthen- thura |
|---------------------------|----------------------|-----------------|------------------|
| 1) Owning one boat* | 149 | 43 | 4 |
| 2) Owning two boats | 65 | 1 | 2 |
| 3) Owning three boats | 13 | - | - |
| 4) Owning four boats | 6 | - | - |
| 5) Owning of boat owners* | 3 | 1 | - |
| Number of boat owners* | 236 | 45 | 6 |
| Number of boats owned | 360 (36) | 51 (12) | 8 (8) |

Household owning only part of a boat could not be identified separately because in cases of joint ownership a boat, it appears, is registered in one name only. It is, therefore, very likely that the actual number of boat owners may be very much larger, particularly in the category of those owning one boat.

(2) The ownership of boats in Sakthikulangara refer to the whole Panchayat and not confined just to the project village.

The distribution of working fisherwomen by nature of their work (see Table III.15) shows that in Puthenthura, the village with the highest female work participation, the activity which occupies almost 70 per cent of these women is net making. In the other two villages, net making is an activity of only peripheral interest. On the other hand, the activity which attracts most working women in Sakthikulangara and Neendakara is dealership in prawns.

Table III.15

Distribution of working women from fishing households
in project villages by nature of work, 1978

| Occupation | Sakthi- kulangara | Neenda- kara | Puthen- thura |
|----------------------------|----------------------|-----------------|------------------|
| Net making | 4.0 | 6.5 | 68.9 |
| Prawn processing for wages | 26.3 | 23.0 | 24.0 |
| Coir | 2.0 | 0.5 | 2.1 |
| Prawn dealers | 44.5 | 35.9 | 0.5 |
| Prawn peeler at home | 2.0 | 8.8 | 0.1 |
| Fish business | - | - | 0.5 |
| Shell collection | - | 4.6 | - |
| Fish headload vendor | 17.2 | 7.8 | 0.6 |
| Others | 4.0 | 7.4 | 3.3 |
| Permanent employment | - | 5.5 | - |
| Total | 100.0 | 100.0 | 100.0 |

While both net making and prawn dealership can be considered as activities of the self-employed, the former is much more lower paid than the latter. In all the three villages around one-fourth of the working fisherwomen are engaged in prawn processing for wages but the absolute number drawn from Puthenthura is almost as large as the number drawn from the other two villages together. Fishing of prawns has, as has been noted in the very first chapter, emerged as a major economic activity almost entirely as a result of mechanized fishing. It can be seen that though only a small number of men from Puthenthura are engaged directly in mechanized fishing, the jobs it has generated in prawn processing have attracted quite a considerable

number from Puthenthura. Prawn dealership, on the other hand, has been the preserve of only women from the fishing households of Sakthikulangara and Neendakara. Interestingly, at the same time, head-load fish vending, a low income-cum-status job, is concentrated in Sakthikulangara. This could be taken as an indication of the existence already of extremes within the fishing community of this particular village.

We have tried to compare the changes that have occurred in each of the villages over a span of a quarter century after the project was initiated. It would be quite apparent that the changes that have occurred in each of the villages are not quite the same. In what follows, we try to give a brief description of each of the villages and to highlight its main characteristics.

I. SAKTHIKULANGARA VILLAGE

Sakthikulangara does not really fit the description of a village any longer, judged by the facilities of which it has access. Apart from its being easily accessible by both long and short distance bus services, a host of taxis are always waiting at the bridge junction. Also, the infrastructural development in and around the village gives it the feel of a town.

As one approaches Sakthikulangara from the south, the roads branching off on either side, i.e., east and west, of the National Highway are scattered with modern looking cement concrete structures. On the east side, you see a series of well stocked shops, quite a few of which deal exclusively in spare parts for mechanized crafts, with a good sprinkling of shops and parlours selling liquor which, though manufactured within India, carries foreign names such as whisky, rum, gin and brandy. Five commercial banks have put up their branch offices also on the east side. Going north, as one gets closer to Ashtamudi Lake, one comes to a number of peeling and fish drying sheds. On the bank of the lake itself is the private boat jetty belonging to a major fish exporting firm, controlled by one of the local families that has made good in recent years. There is the Government boat-building yard run by the Department of Fisheries. It was put up by the Norwegians in 1954-55 and is said to be quite well-equipped. It has a mechanical workshop and a modern carpentry unit. Mechanized boats upto 11 metres in length are constructed and repaired

here. There are over a half dozen private mechanical workshops and also a private boat yard in the village.

On the west side also there are a number of modern looking structures but most of them are residential buildings with far fewer shops than on the east side. Coming up north from Quilon city by the highway, the stench of fish is overwhelming as one comes close to the highway bridge. Fish and prawn peel are dried indiscriminately close to the side walks on the west side. A few metres before the bridge stands next to the road a building which looks like frosted cake with several layers. It is a monument dedicated to Virgin Mary, by a local fisherman who virtually rose from rags to riches. The Parish Church is also located on the west side, close to the sea coast, in the very heart of what was once the hub of fishing activity. This was when all fishing was undertaken in traditional crafts.

The monument to Virgin Mary is now the nerve centre of the village. All men and women looking for casual work hang around here. Also, during the peak fishing season, you see innumerable trucks and cyclists positioned on the sides waiting to transport the fish catch to various places. In addition, a host of people can be seen here going to or from the public boat jetty on the west side. These may be auctioneers, commission agents, deck hands, dealers in fish including prawn, fish sorters or prawn peelers. Not all of these persons belong to Sakthikulangara village. Many come from Neendakara, Puthenthura and several other neighbouring villages, particularly during the peak fishing months of June to September.

The public boat jetty

The boat jetty located on the west side is the centre of intense feverish activity, particularly during the peak months. Though land immediately jutting on water is largely Government property, families owning adjacent lands have virtually taken possession of Government land. Unless one is familiar with the place, one is bound to be utterly confused by the goings on here. While several people are running to and fro with fish baskets and ice slabs on their heads on extremely wet and slippery terrain you see women sitting in groups on the same ground sorting out catch as it is unloaded. An assortment of fish, mostly of poor species gets caught along with prawns. Sorting out the catch is itself a major preoccupation upon which some women here concentrate.

The jetty proper is an even bigger confusion. Every time a boat unloads its catch, people rush towards it. Each basketful of catch is auctioned separately. There is always an auctioneer at hand with his notebook and pencil. There is always more than one boat landing its catch at the same time. Each auctioneer is surrounded by people and in each such group every one seems to be shouting at the same time. The auctioneer, who is evidently familiar with every face around him, knows what the bid is and from whom. The whole bidding is based on the judgement of the eye. So one has to be quite experienced in judging the contents of a basket. Some groups are altogether male, others almost entirely female in composition. Men go for bigger and expensive lots whereas women dealers go for

less expensive lots. So both men and women go about with a lot of liquid cash tucked at the waist in their wrap around mundus. As each basket is auctioned, it is taken aside for sorting right on the jetty or if it is sorted already, it is moved to a peeling shed for processing. Quite a few peeling sheds have been put up by the side of the jetty. But there are several which are located away from the jetty.

Though a public jetty, since land immediately adjacent to the landing site is owned by some twelve fishing families of the village, it is to these families that the whole of the jetty virtually seems to belong. They have built their own peeling sheds and rent them out. One of these families has put up a petrol pump to serve the boats. Another family has put up an ice factory. It is one of the 17 ice factories located in this village. Also, there are innumerable tea shops and agency booths. The latter have been set up in rented premises by the processing and/or export firms. The jetty owners make good income by way of rent they charge these booths. They also collect a fee from not only every boat that comes to berth there, but also auction agents and dealers who use their peeling sheds. No wonder that these families have become very prosperous over the years since mechanization was introduced. But they have done little to improve the jetty or its surroundings. Today, it is not only a highly disorderly place but also most unhygienic, particularly in the peak season.

are gill netters and drift netters which bring in catches comprising sharks, catch fish, seer, tuna and tuna-like species, scianids, perches, pomfrets, etc. These catches are also auctioned as they are landed. The quantities landed can be quite substantial during the peak season and have to be despatched promptly to various centres of consumption in and outside the district for retail sale by local vendors. A large proportion of the fish other than prawns from the jetty finds its way to the bicycles and lorries standing outside. There are very few women headload vendors. The bicycles transport fish to markets within 25 to 30 kilometres, while lorries carry it over much longer distances inland of up to 150 kilometres.

The use of ice has expanded phenomenally in recent years. Almost the entire quantity of prawn landed at Sakthikulangara region is exported. The use of ice is of crucial importance right from the time prawns are landed to the time they are ready to be frozen to avoid spoilage. It is estimated that, in weight, the ratio of ice needed to preserve prawns is 3:2. For other varieties of fish the ratio of ice required, in terms of weight is less. Given the scale of requirement, ice is a very scarce commodity during the peak season.

Electricity connection

Not only is Sakthikulangara well provided with street lights but also the proportion of households with electricity is quite impressive. Most of the modern structures, reside

built partially or altogether of thatch. According to the latest Panchayat statistics, there are 568 street lights in the whole of the area within its jurisdiction. Since the proportion of brick houses in the Panchayat is about 27% assuming that at least each such house had electricity, it means that at a minimum every fourth house in the Panchayat has access to electricity. The ratio is, in all probability much higher, particularly for the village of Sakthikulangara which is the centre of economic activity in the Panchayat.

Drinking water

There are two sources of water supply, wells and pipes. Many of the fishing households have wells. Since most of the area is only about two metres above sea level, the water table is quite high. As a result, digging of wells is not expensive. However, the well water has been found to have a very high level of salinity. Also, it is not considered safe in other respects. The normal practice, therefore, is to use well water for washing and cleaning purposes and depend on public taps for drinking water.

One of the very first things that the Norwegians did under aid project was to connect all the three villages they were as well as the town of Quilon, with safe drinking water, wash water lake, known by the name Sasthancottah. Water is pumped through pipes. Thus Sakthikulangara has had water supply since 1955. Initially, some 45 public water points so that safe water was within

easy reach for most of the households. Thus, over 70% of the houses were within a distance of 200 metres or less from a public tap.

Toilet facilities

One thing that the Panchayat as a whole, and the village in particular, lack is sufficient toilet and drainage facilities. There are no public toilets or latrines in the Panchayat. In the early phase of the project, some 800 latrines were built free for private households, but there was very little enthusiasm for using them. Having been used from time immemorial to bathing in public and defecating in farms and other open spaces, people's reaction was understandable. In recent years, however, practically all the modern houses built in the area have got latrines as well as bathrooms. This can be taken as an indication of a change in attitudes.

Financial institutions and sources of credit

Sakthikulangara village is well provided with banking and other financing institutions. Two major commercial banks in the nationalized banking sector, Central Bank of India and State Bank of Travancore, have set up their branches here. In addition, the Kerala Financial Corporation, a State Government institution, has an office here meant to help fishermen with long term credit. Also, three banks from the relatively smaller private bankir sector operate their branches in Sakthikulangara. In add' 15 registered indigencous saving associations, known as c operate here. These are apart from a whole lc

chit funds that people operate.

Thus, there are many sources of credit available in the village. The banks give loans mostly for commercial purposes although loans for larger periods are not altogether ruled out by them. Loans taken from commercial banks for the purchase of mechanized boats are generally for a four-year period. In fact, all the banks have schemes under which loans are extended to weaker sections of the community on concessional terms. The current rate of interest charged by the banks works out to between 18 and 20 per cent but for concessional finance, the rates vary from four to 16%. Also bank loans are ordinarily granted against adequate security, but for concessional finance, banks make some relaxations. That is how fishermen engaged in traditional fishing and women engaged in running peeling sheds or doing prawn business are able to avail themselves of bank finance. There seems to be a general awareness in the village, among working men as well as women, about the facilities various banks are offering and their terms and people do not hesitate to use them as and when they become eligible.

The most popular credit institution, however, is the chit fund, a traditional source of saving and borrowing within the community. These funds operate various schemes, the most common being auction chitty and kuri chitty. In auction chitty, the member offering the highest discount is entitled to draw the amount, against adequate security. The auction is generally restricted to members only. In kuri chitty, on the other hand, lots are sold between members at regular intervals and the successful

member can draw the amount against acceptable security. There is also the rolling system under which you take loan and repay it every day. Chitty is a very active business, not only in this village, but also in most other villages. Practically, all members of a household become members of one chitty or the other. But most chitties are unregistered and operate on the trust repose in their managers.

There is no professional money lender in the village, but that does not mean that no private money lending takes place here. Many shop keepers are known to do a certain amount of money lending in addition to the credit they extend on the goods they sell. Also a certain amount of lending takes place between not only boat owners and their crew, but also households. Gold ornaments are usually acceptable in mortgage for transactions between households.

Educational facilities

The Church, which was established here in 1878, has been taking a leading role in providing and expanding educational facilities. The first primary school was established here in 1899 and this was upgraded in 1923 when it had a strength of 400 students. In 1949, a high school was started by the Church. Given the facilities within the village, embracing primary school, it has been

omen. Secondly, the proportion of illiterates among men as well as women is higher in Sakthikulangara than its two neighbouring villages of Neendakara and Puthenthura, though the latter are not so well provided with educational facilities. At the same time, there is a higher proportion of men reaching higher levels of education.

facilities

Right in the village, there are three private dispensaries and three private hospitals. There is also an Aurvedic dispensary. However, two public hospitals, the Project Health Centre, and Quilon District Hospital also are within easy reach. The former is located at a distance of four kilometres to the north and the latter is located about 10 kilometres to the south. Both of them can be reached by bus, scooter or taxi. Many people from this village go to the Quilon District Hospital which is the oldest hospital in the district, established as early as 1870. Quilon town has also a number of private as well as Mission hospitals.

The Church in Sakthikulangara

Though the village derives its name from the local Hindu deity devoted to goddess Sakthi, its fishing population is entirely Hindu and, as was stated above, belongs to the caste which was

which was

What is of particular importance in the context of the present is that not only is the Church involved in all the vital events: life, viz., birth, marriage, and death, but also the Church keeps a record of these events.

The Church Records

In fact, the Church in Sakthikulangara maintains separate registers not only to record baptisms, burials, and marriages, also a register to record 'changes in each family'. In addition there is the annual return book to draw a balance sheet, as it of the demographic events among the village latin catholics on the completion of every year. Access to these registers was found to be of immense help in gaining insight into the demographic changes among the fishing households of Sakthikulangara in spite of certain limitations of the information.

Births and Deaths

Table III.16 sets out birth and death rates, for the last thirty years, for Sakthikulangara Parish. As will readily be seen recorded birth rates have been very high in the Parish exceeding 40 they did 40 births per 1,000 of population from 1950 to 1974.

It is only during 1975-79 that a decline in the recorded birth rate can clearly be discerned. On the other hand, the recorded death rate in the Parish has kept very low right from the beginning and became even lower 1960 onwards. There is need, however, to be a little cautious here. Strictly speaking, all births in

Table III.16.

Birth and death rates in Sakthikulangara Parish,
1950-1979

| Period | Birth rate | Death rate |
|------------|------------|------------|
| 1950--1954 | 46.5 | 8.6 |
| 1955--1959 | 45.4 | 8.1 |
| 1960--1964 | 39.0 | 5.8 |
| 1965--1969 | 42.6 | 5.7 |
| 1970--1974 | 40.7 | 5.8 |
| 1975--1979 | 31.2 | 4.9 |

Source: St. John Britto Church Parish Records.

Christian households are required to go through baptism and therefore to be recorded in the Church register, but the possibility cannot be ruled out that some births do not get recorded. Infant deaths occurring before baptism often go unrecorded according to the Parish priests past and present. The extent to which births are unrecorded has been estimated on the basis of the information collected for the purpose of this study from randomly selected fisherfolk households in each of the three villages with regard to total pregnancies and infant deaths over three generations. For the five-year period 1975-79, corrected birth and death rates would work out to 34.7 and 5.4 instead of 31.2 and 4.9 respectively. Therefore, while there can be no doubt that both birth and death rates have experienced substantial declines in recent years, it is doubtful that actual rates are the Church records show.

In addition to information on the number of births occurring in a household the Church record in Sakthikulangara also shows the place of delivery. Until 1970, when delivery took place in an institution, the name of institution was also recorded. On the basis of the information thus available, Table III.17 has been constructed setting out the distribution of recorded births on the basis of the place of delivery and type of institution. It can be seen that the shift of deliveries from home to hospital started only in the fifties and that this shift was almost complete by the end of the seventies. This should, by any standard, be considered a phenomenally rapid change.

Table III.17

Distribution of births in Sakthikulangara by place of delivery and type of institution

| Period | Home | Hospital | Public hospital | | Private hospital | |
|---------|------|----------|-----------------|-----------------------|------------------|------------------|
| | | | Govt: hospital | Foundation hospital * | Mission hospital | Private hospital |
| 1950-51 | 98.2 | 1.8 | 1.6 | - | 0.2 | - |
| 1955-59 | 87.7 | 12.3 | 4.2 | 7.0 | 1.1 | - |
| 1960-64 | 68.1 | 31.9 | 5.4 | 21.8 | 4.7 | - |
| 1965-69 | 46.5 | 53.5 | 12.5 | 24.6 | 10.4 | 5.8 |
| 1970-74 | 13.1 | 86.9 | NA | NA | NA | NA |
| 1975-79 | 3.7 | 96.3 | NA | NA | NA | NA |

* The hospital put up under the Norwegian Aid Programme is commonly referred to in the Project Areas as Foundation Hospital. Its present formal name is Indo-Norwegian Medical College Unit, Neend kara.

NA Not available

Source: St. John Britto Church, Parish Records.

Choice of Institution

Other studies of low income communities in Kerala suggest that shift of deliveries from home to institutions could be a major factor in gaining acceptance of family planning for various reasons (Gulati, 1980). One important reason, it is felt, is that since institutional care improves the survival rates of infants, it indirectly helps the acceptance of a smaller family size. At the same time, however, the influence of the hospital doctors and other staff on the patients is found to make an important difference. Here the type of hospital people go to for delivery becomes important. Doctors and other staff in hospitals run by Christian organizations, particularly those of Catholic persuasion, are not supposed to promote the adoption of family planning. The question of such hospitals performing sterilizations hardly arises. It is, therefore only to be expected that where deliveries take place in mission hospitals, there may be a certain delay in acceptance of family planning.

It can be seen from Table III.17 that during the five year period, 1965-69, the period for which latest distribution of recorded hospital deliveries by type of institution is available, 30 per cent of such deliveries occurred in private mission hospitals. Of these, nine out of ten were accounted for by mission hospitals.

Of the deliveries occurring in public hospitals, two thirds or more were in the Project hospital. This, in all probability, was the result of intensive field work undertaken by the staff of

this hospital, particularly in its early years when the Norwegians were in charge. Evidently, at least initially, a considerable amount of ground work was necessary for the people to be brought around to the usefulness of institutional care at the time of delivery. Acceptance of family planning only follows thereafter.

Age at Marriage

Sakthikulangara's fisherfolk present an interesting situation combining virtually total acceptance of institutional care of the recorded deliveries with what is by the standard of Kerala State rather low age at first marriage of women.

Table III.18 sets out mean age at first marriage for both men and women in Sakthikulangara Parish from 1901 to 1980. It can be seen that the age at marriage of women in Sakthikulangara was 16.20 in 1901-10 when the corresponding figure for Kerala State as a whole was 17.13. In 1961-70, the corresponding figures were 17.13 for Sakthikulangara and 20.88 for Kerala State. It can be seen also that while for Kerala State as a whole the age at marriage of women increased by 3.75 years during the period 1901-10 to 1961-70, it increased by only 1.51 years for Sakthikulangara Parish. As a result, the gap between the mean age at marriage of women for Kerala State and that for Sakthikulangara Parish has widened from 0.93 years in 1901-10 to 3.15 years.

Table III.18

Mean age at first marriage in Sakthikulangara
Parish, 1901-1979

| Year | Male age at marriage | Female age at marriage |
|---------|-------------------------|---------------------------|
| 1901-10 | 24.00 | 16.20 |
| 1911-20 | 24.23 | 16.34 |
| 1921-30 | 23.59 | 16.32 |
| 1931-40 | 25.08 | 17.28 |
| 1941-50 | 24.72 | 17.61 |
| 1951-60 | 24.63 | 17.25 |
| 1961-70 | 24.94 | 17.73 |
| 1971-79 | 25.31 | 17.71 |

Source: St. John Britto's Church, Parish Records.

II. NEENDAKARA VILLAGE

Between Sakthikulangara and Neendakara villages lies the Neendakara bar, which is now spanned by a modern highway bridge, known as the Neendakara bridge. In Malayalam language, Neendakara means a long bank. Right from early days, Neendakara was the point of entry and exit for wooden slips carrying cargoes to or from the interior. When the Portuguese established their trading settlement in Quilon, some ten kilometres south, their ships had to pass through Neendakara bar. St. Sebastian Church in Neendakara village, still the most outstanding building, was put up by the Portuguese in 1588.

Going north from Sakthikulangara, as one crosses the highway bridge, one cannot miss the Church to the east, which is now being rebuilt on quite a massive scale. However, before one reaches the Church there are on the eastern side two rather large modern buildings. One houses the Government-owned freezing plant and ice factory. These are run by a public sector firm, Kerala Fisheries Corporation. The firm has a small jetty of its own where the trawlers find their own berth and land their catch. The second building belongs to a privately owned exporting firm which also has its own freezing plant, ice factory and landing jetty.

Unlike Sakthikulangara, on Neendakara side of the lake there is no public jetty to which individual fishermen are allowed easy access. They have to go to the public jetty in Sakthikulangara, regardless of whether the fishermen owning the boat belongs to Sakthikulangara, Neendakara or any where else. Had there been a public

jetty on Neendakara side also, congestion would have been far less in Sakthikulangara. Unfortunately, the State Government's plan to put up a public jetty on Neendakara side seems to have got bogged down along with the most ambitious project for a fishing harbour.

On the western side, immediately after one steps out of the highway bridge, there is a vast space between the sea and the highway, which is now cordoned off by a high wall for the proposed fisheries harbour. Neendakara is already classified as a minor port, handling the export of ilmenite sand and the import of raw cashewnuts. A permanent office of the Dredging Superintendent is located on the harbour site to undertake regular dredging operations so that the lighters and barges can move freely through the channel. The channel is kept deep enough for small mechanized fishing boats also to move freely.

Economic integration of the two villages

Earlier in this Chapter, it was stated that over the past 25 years, the fishing population expanded most in Neendakara and least in Sakthikulangara. It was noted also that the fishing population of Neendakara grew particularly fast in the past 15 years, 1963 to 1978, possibly because the village was in a position to absorb the maximum impact of the immigration into the Project area in the wake of the increased economic activity related to fishing. In fact, given the extent of involvement of the fishing households from either side of the highway bridge in mechanized fishing, and allowing for the fact that so far

practically all the boats have to berth and land their catches on Sakthikulangara side, it would be quite reasonable to ask if they should not be considered as one composite group. Several men and women from Neendakara go in large numbers to work for the mecharized boats, be they trawlers or gill netters, plying to and from the public jetty in Sakthikulangara. Those engaged in buying and selling of fish including prawns also have to go to the public jetty in Sakthikulangara. So also is the case with most of those working as casual sorters of fish or peelers of prawns. Likewise, not all the persons, men and women, working in the freezing plants and ice factories located in Neendakara are residents of the village. Quite a few live in Sakthikulangara, as also in Puthenthura. Similarly, while there exist two bank offices in Neendakara, several persons from Neendakara have their accounts and dealings with the banks across the bridge. In the same way, not only various commercial establishments but also schools, colleges and hospitals in Sakthikulangara cannot be considered as out of easy reach of the residents of Neendakara. Still, there are some clear differences between the two villages.

Points of difference

The fishing households in Neendakara, as has been pointed out already, are much more modestly housed. While one out of every four fishing households in Sakthikulangara is living in a pucca house, this is so only for one out of every ten fishing households in Neendakara. The vast majority lives in thatched huts or kutchu houses.

Also, while the involvement of both the villages in mechanized fishing was equally large, it was found that the concentration of boat owners (i.e., the proportion of those owning mechanized craft) was twice as large in Sakthikulangara. In fact, not only is the proportion of households owning mechanized craft much smaller in Neendakara than in Sakthikulangara, but also the boat ownership in Neendakara, barring a few exceptions, is much more modest. Thus, while close to 60 per cent of the boat owners in Sakthikulangara own two or more boats, in Neendakara, the corresponding percentage of such boat owners is only four. Also, again relatively speaking there are far more illiterates, men as well as women, in Neendakara than in Sakthikulangara. So, Neendakara fishermen are, it would appear, only poor cousins of the fishermen in Sakthikulangara, however integrated may be the economies of the two villages now.

Economic and Social Infrastructure

Neendakara village is well provided with street lighting. The source of protected water is the same as Sakthikulangara, namely the fresh water lake at Sasthancottah, some thirty kilometres away. Almost all fishing households live at a distance of less than 200 metres from the nearest public water tap. The Government hospital nearest to Neendakara is the one that was established under the Norwegian Aid Programme. It is located about 2 kilometres to the north and can be reached by bus in less than ten minutes. Apart from a small mission hospital and a private dispensary in Neendakara itself, private hospitals and dispensaries across the bridge, in Sakthikulangara are also within

easy reach of the people of Neendakara.

As regards educational facilities, Neendakara is reasonably well provided. The village has two upper primary and five lower primary schools. The most important school here is the St. Agnes Upper Primary School, a co-educational institution, run directly under the Bishop of Quilon. The school has been in existence since 1951. It works in two shifts now. If, in spite of the educational facilities within its reach, Neendakara is more backward in terms of literacy than Sakthikulangara, the reason for this has to be found somewhere else.

Births and deaths

St. Sebastian Church of Neendakara has been in existence for almost 400 years now and some of its records possibly go back to the year, the Church was put up. Access could, therefore, be gained easily to its records for recent years. Table III.19 sets out birth and death rates for Neendakara Parish for the last 30 years. As can be seen, the comparison of recorded birth rates in the first and last quinquennium shows a decline of the order of 35% in the course of a 25 year period. But the figures for the intervening quinquennia do not indicate the rate of decline. On the other hand, it would appear, that the decline in recorded death rate, as yielded by the comparison of the figures for the first and the last quinquennia somewhat understates the actual situation.

While discussing the figures obtained for Sakthikulangara Parish, a suspicion was expressed that the Church records there possibly did

Table III.19
Birth and death rates in Neendakara
Parish, 1950-79

| Period | Birth rate | Death rate |
|---------|------------|------------|
| 1950-54 | 55.0 | 9.2 |
| 1955-59 | 48.1 | 5.1 |
| 1960-64 | 51.7 | 8.5 |
| 1965-69 | 46.2 | 4.7 |
| 1970-74 | 49.8 | 8.2 |
| 1975-79 | 36.1 | 8.1 |

Source: St. Sebastian Church
Parish Records, Neendakara

not record births of children dying before their baptism. What, if at all, was the recording of the above type in the records of the Neendakara Parish?

Firstly, when one compares uncorrected figures for Neendakara with those of Sakthikulangara, the former are already considerably higher. Secondly, on the basis of the information collected from selected families in Neendakara in regard to infant deaths and pregnancies the correction factor that could be applied to its recorded figures cannot exceed five per cent. The corrected birth and death rates for the period 1975 to 1979 would then work out to 38.0 and 10.0 respectively as against the corresponding figures of for Sakthikulangara of 34.7 and 8.4.

As in Sakthikulangara, Church records in Neendakara indicate the place of delivery of recorded births. In fact, where a delivery has taken place in an institution the records in Neendakara have

continued to give the name of the institution even after 1970.

Table III.20 gives therefore the distribution of recorded births on the basis of the place of delivery and type of institution. It can be seen that for the period 1950 to 1969, very few (less than five per cent) deliveries took place in hospitals. Though the real shift seems to have started only in the seventies, when close to half of the recorded deliveries had already shifted to hospitals. In Sakthikulangara it will be recalled, the shift of that order had already been achieved during the quinquennium, 1965 to 1969.

Of the deliveries from Neendakara which took place in hospitals during 1975-79, only 20 per cent were accounted for by public hospitals, with the share of the foundation hospital being just one per cent. Almost three fourths of the hospital deliveries were accounted for by mission hospitals. In Sakthikulangara, of the hospital deliveries in 1965-69, while 70 per cent were accounted for by public hospitals, with the share of the Foundation hospital being 46 per cent, mission hospitals could account for less than 20 per cent. Can the larger share of mission hospitals in Neendakara's hospital deliveries be connected in some way to the stronger influence of the Church on the fishing households of Neendakara Or should it be that people feel safer with mission hospitals than public hospitals? While public hospitals offer virtually free services, this is not altogether true with respect to mission hospitals. In this context, it is relevant to note that, according to the view generally encountered among the common folk in the Project area, the quality of service provided by the Foundation Hospital has deteriorated since the Norwegians left

the scene in the mid-sixties. How far the observation with respect to the quality of service is valid is difficult to document. It is probably still true that the earlier enthusiasm for intensive field work has waned over the years. Assuming that even as Neendakara deliveries shift further from home to hospital, the share of mission hospitals remains substantial, the question then would arise with respect to its impact on the acceptance of family planning in the village. Will acceptance of family planning be therefore less among the fisherfolk of Neendakara than among the fisherfolk of Sakthikulangara, though both belong to the same Christian denomination? It is difficult to answer the question straightway. However, it is still possible that family planning acceptance in Neendakara may not fall far behind Sakthikulangara judging from the noticeably greater increase in the mean age at marriage of women in Neendakara than in Sakthikulangara during the current century.

Table III.20

Distribution of births in Neendakara by place of delivery and type of institution

| Period | Home | Hospi- tal | Public Hospital | | Private Hospital | |
|---------|------|---------------|------------------------|-------------------------------|--------------------------|--------------------------|
| | | | Govt: hospi- tal | Founda- tion hos- pital | Mission hospi- tal | Private hospi- tal |
| 1950-54 | 96.3 | 3.7 | 2.5 | - | 1.2 | - |
| 1955-59 | 99.3 | 0.7 | 0.7 | - | - | - |
| 1960-64 | 99.7 | 0.3 | 0.3 | - | - | - |
| 1965-69 | 97.4 | 2.6 | 1.5 | 0.8 | 1.0 | - |
| 1970-74 | 61.5 | 38.5 | 6.0 | 0.8 | 22.8 | 1.5 |
| 1975-79 | 50.7 | 49.3 | 10.2 | 0.4 | 35.8 | 2.8 |

Source: St. Sebastian Church Parish Records, Neendakara.

Age at marriage

Table III.21 gives the mean age at marriage for both men and women in Neendakara Parish from 1901 to 1979. It can be seen that the mean age at marriage of men and women during 1901-10 was almost the same as in Sakthikulangara for both men and women. Neendakara's mean age at marriage was 26.36 for women and 19.67 for men as against Sakthikulangara's 25.31 and 17.71 respectively. The gap is particularly noticeable with respect to women's age at marriage.

Table III.21

Mean age at first marriage in Neendakara Parish, 1901-1979

| Year | Male age at marriage | Female age at marriage |
|---------|----------------------|------------------------|
| 1901-10 | 24.03 | 16.19 |
| 1911-20 | 24.32 | 16.28 |
| 1921-30 | 25.05 | 17.05 |
| 1931-40 | 27.44 | 19.98 |
| 1941-50 | 26.28 | 18.91 |
| 1951-60 | 27.95 | 20.14 |
| 1961-70 | 25.43 | 18.88 |
| 1971-79 | 26.36 | 19.67 |

Source: St. Sebastian Church Parish Records, Neendakara.

Looking ahead

It is interesting that two groups of fisherfolk which, not only are geographically and culturally so very close to each other but also have been undergoing a process of very close economic integration over the past twenty years, still can show some quite divergent trends with respect to factors which can have impact on demographic developments.

III. PUTHENTHURA VILLAGE

The same National Highway that runs through Sakthikulangara and Neendakara connects them to Puthenthura which is not more than three kilometres north of Neendakara Bridge. Being on the highway, many public buses pass through Puthenthura. Several of them make a stop here, but to get in depends on whether there is room. There is also a half hourly bus service, which costs 40 paise (approximately US\$ 0.05) to commute to or from Sakthikulangara. Lately, private mini-buses have started operating in the region. They are much more expensive, however. From Puthenthura to Sakthikulangara or back, a mini-bus would charge one rupee, i.e., two and a half times what public bus charges. Most people, men as well as women, commute to and from Sakthikulangara on foot. Even when they have to go long distances they walk up to Sakthikulangara because it is easier to get into a bus there.

The highway cuts through the village dividing it into two halves. On the west is a stretch of sandy land lying between the sea and the highway. It is here that one sees the cluster of huts, close to four hundred in number, which comprise the principal part of the village. Unlike most non-fishing villages, a fishing village in Kerala, regardless of its religious composition, tends to be of the cluster type. On the east of the highway is land interlaced with backwaters, while on the west side there is hardly any vegetation, the east side is refreshingly green with its palms, vegetation and backwaters. Here there are a hundred houses put up by Government as part of its programme for providing improved housing to the

economically backward groups in the State.

The Foundation Hospital

Going north from Neendakara bridge a major land mark that one cannot miss before reaching Puthenthura is what is commonly referred to as the Foundation Hospital. Its formal name is Indo-Norwegian Medical College Health Unit. The unit was put up under the Norwegian Aid Programme to serve the total population of the Project area.

When the health unit was started, the major emphasis was preventive medicine and improvement in the health of mothers and young children. A clinic for mothers and children was put up in 1954 and a maternity ward with 16 beds was added to it within a year. It was also in 1955 that a sub-centre of the health unit was opened at Sakthikulangara and a tuberculosis outpatient clinic was added to the main centre. The latter clinic was provided with an X-ray screen-

ing unit in 1957. As the demand rose from the public for curative facilities two curative clinics were also started in 1957. A separate children's ward, with 24 beds, was set up in 1962. In 1963 the management of the whole health unit including its sub-centre, was handed over to the State Government. To start with, the unit was administered by the State Department of Health Services but in 1966 it was handed to the Government Medical College in Trivandrum. Now, the unit functions also as a health training centre for medical and para-medical personnel, and is administered by the Department of Social and Preventive Medicine of the College. The Centre has six clinics, including leprosy and dental clinics which were started in

1967 and 1969, respectively, in addition to the maternity and children's wards with sixteen and twenty-four beds respectively. Originally, the services of the centre were open to only people from the Project area, but after its administration passed into the hands of the college, the services were extended to the neighbouring villages.

Family planning

Though no new beds have been added to the maternity ward since it was started in 1955 with 16 beds, the number of deliveries handled has been increasing rather fast. Between 1961 and 1972, the increase registered in this regard was five-fold. Post-partum sterilizations were also undertaken here, but it took people some years to accept them. From the available evaluation reports on the working of the whole health unit, it would appear that one of the main obstacles to the acceptance of post-partum sterilization was anaesthesia. People found it painful and complained of severe, frequent backaches and headaches during follow up. Initiative was taken by the doctors of the health unit to perform post-partum sterilization under local anaesthesia and this improved the acceptance of sterilization considerably. Thus while in 1968 the percentage of post-partum sterilizations to hospital deliveries was 9.4, it went up to 54.9 in 1972. Although vasectomy operations were also started in 1964, their acceptance in the community has been rather nominal.

The health reports indicate that the overall response to the medical facilities offered by the health centre was very positive right from the very beginning, and that the facilities of the maternity ward were soon over-extended. In fact, the most recent available

data indicate that admission was provided for as many as sixty patients as against the bed capacity of only sixteen. There can be little doubt, therefore, that the health unit has not only provided invaluable service to the people of the Project area but also helped in the popularization of family planning. Still, people of the area complain generally of a deterioration in the attention and service they receive at the health unit now, compared to what it offered in its early phase. To some extent, the deterioration in service may have been the direct result of the decision to extend the services of the unit beyond the Project area without at the same time, expanding the unit's capacity. However, anyone now visiting the unit cannot but notice not only the congestion but also the poor state of the unit's equipment, buildings and environment.

Near the health unit, are a few brick buildings which house an exporting firm, an ice factory and a bank. These buildings are also in the western side of the highway. It is after these that one comes to the main settlement of the fishing households. At the very entrance to the settlement, one sees a dilapidated building which at one time housed the local office of the Araya Seva Samithi, the service organization of the Hindu fishermen all over Kerala, but is now in virtual disuse.

The Araya fishermen

The Hindu fishermen of Kerala State belong to one of the three fishing castes. There are the Arayas, the Mukkuvans and the Valans. Though the traditional occupation of these three castes is fishing,

there is no inter marriage between the people of these castes. The Arayas of different villages have organized themselves into Araya Karayogams (karayogam means association of hamlets) which together make Araya Seva Samithi at the State level. Indeed at the State level, all the Hindu fishing castes have joined into a federal body called Akhila Kerala Dheevara Sabha, an organization which aims at safeguarding the social, economic and political interests of these castes.

The Araya Seva Samithi

Over 90% of the fishing population of Puthenthura belongs to the Araya caste. All the Araya households of the village are members of the local karayogam and therefore come under the discipline of the Samithi. The karayogam was found in Puthenthura in 1943. A Committee was set up consisting of a president, secretary treasurer and six other members. They are elected every two years on the basis of one adult one vote. Each member household pays a monthly subscription of one rupee to meet the Committee's expenses. The Committee settles disputes between members, registers marriages, records dowries, mediates in marital disputes and organizes religious and social festivities. While there is no legal sanction behind the Committee's decisions, the general support of members gives its decisions a strong backing, and individual members do not ordinarily violate these decisions for fear of general disapproval. Thus the Committee can be said to perform several functions which the Church performs in the other two villages where Latin Catholics predominate.

The west side settlement

At the back of the abandoned building of the Araya Seva Samithi is another brick building which houses a village post office and reading room. From that point on, westward and northward, are huddled together in a seemingly random fashion, some three hundred huts of fishing households. The huts, without exception, are made entirely of thatch, the only difference between huts being of size or age or both. The thatch used for walls has to be replaced every five years and that used for the roof every three years. But not all households can do this on time. The Government Upper Primary School housed in a brick building marks, more or less, the northern boundary of this settlement, sandwiched on the narrow strip of land between the sea-coast on the west and the highway on the east. The whole terrain is bare with virtually no palms or other trees to provide some shelter from the mid-day sun when it gets unbearably hot in summer. Part of the reason why the whole place is so bare could be that all land here is public property, which may be taken away from the people living on it. The area is considered rich in ilmenite and the State Government keeps coming out with plans to exploit it. Luckily for these people, these plans have been taking time to get translated into action.

The east side settlement

On the eastern side of the highway is the temple which is one of the main landmarks here. Then there are a few shops and as one proceeds north, one comes to the dispensary of the Employees' State

Insurance Hospital. The services of this dispensary are available only to employees of such factories and other establishments within a specified jurisdiction which are members of the employees' state insurance scheme managed by the Central Government. The village folk have no access to the dispensary. The hundred brick houses which the Government built some time back for the fishermen here cannot easily be seen from the highway. The houses are laid out in rows with proper access roads, street lights and access to protected water taps. The people have planted palms and other trees in their individual plots. The more enterprising ones do some gardening as well. Access to water is no problem because of the small river next door, and water taps located at convenient points. The houses are of the same size unlike the huts on the west side. Each house has a built area of 300 square feet and some open space around it. Each house is made of baked bricks and cement plaster and has tiled roof. People living in these houses were originally living on the west side and practically every one here has a relation or two living there.

The fish landing site

The site for the traditional craft to land fisheries is to the back of the west side settlement. A couple of huts close to the site have opened tea shops for use by the village fishermen. The tea shops increase and decrease depending on the seasonal fluctuations of the fish catch. Also, there are a few thatched sheds, put up collectively for use when it is too hot under the sun.

Notwithstanding all that has happened in the Project area since the Project was launched in 1953, Puthenthura is still a traditional

fishing village, judging by the technology used in the village for fishing. The two types of crafts used here are the Thanguvallom, carrying a crew of nine to 11 persons, and the Kochuvallom, carrying a crew of four to five persons. Some efforts are being made currently to persuade fishermen here to have their craft fitted with outboard engines. Easy finance is provided by the manufacturing firms directly or indirectly. But this is still in an experimental stage. Only five crafts have so far gone in for outboard engines.

It was in Puthenthura that the attempt to introduce mechanised boats was first made under the Norwegian Aid Programme. Initially, however, the acceptance was not very satisfactory. The reasons probably were many, but the most important one was the very low horse power of the first mechanized boats. The boats, 20 to 22 feet in length were fitted with engines of eight to 10 horse power and were meant for four or five fishermen. Being heavier than the local craft, these boats needed more men for landing and launching than the crew itself. The boats fished for the same sardines and mackerels, found close to the inshore region as the local craft. Thus while the mechanized crafts did not show any significant advantage over the traditional craft in range, they were found to be twice as expensive as the traditional craft in terms of operating costs alone. Maintenance also was very much more expensive and more time consuming. Though the boats were sold at 50% of the cost price and became the property of the fishermen, the capital cost still worked out to be very much higher in comparison to the non-subsidised cost of the comparable local craft. So, even the economies of the boats first

introduced was not quite convincing. These probably were a host of other factors which confused the economies of the technological change at least initially. The use of ice had not been introduced. On days of bumper catch, prices would crash and fish would have to be either sold at rock bottom price or allowed to rot. Also, possibly the chain of communication of the Project personnel with the fishermen took time to take roots. The fact that Puthenthura village did not have a protected landing site of its own where boats could conveniently be berthed may also have generated on the village fishermen as a dampening factor. Anyway the net result was that Puthenthura took to mechanized boats rather marginally as compared to Neendakara and Sakthikulangara. Thus today, only eight out of 419 mechanized boats owned in the Project area belong to the fishing households from Puthenthura. Of course, as has been indicated earlier in this chapter, the proportion of fishermen engaged in mechanized fishing is not so low. This has come about with increasing involvement, over the years, of men from the fishing households of Puthenthura in various jobs on mechanized boats. Direct benefits of the Project have, therefore, accrued to Puthenthura mostly through the services provided by the Foundation Hospital and generation of some new jobs for the local people in the pipe factory located to the north of Puthenthura.

So, even today the fishing crafts are, like elsewhere along the Kerala coast, powered by oars and launched from and landed on the sea coast, every day during the various fishing seasons. The sea coast of Puthenthura enjoys no natural protection. While the craft can land their catches all along the coast, they concentrate within

a stretch of about 500 yards, considered the least unsafe by the fishermen. The activity on the landing site is in the mornings and afternoons. During peak periods, when the catch is expected to be good, you find not only cyclists but also trucks from far and near coming to Puthenthura to transport fish to the interiors. A few elderly women headload fish vendors who can be counted on one's finger tips are there practically on all days when local crafts go out to sea.

They all buy fish by auction conducted right after a craft lands its catch. While women fish vendors carry their wares on foot to distances within 10 kilometres, cyclist vendors, who generally predominate auction purchases on the Puthenthura landing centre, carry fish to longer distances, and the trucks to still longer distances. All of them, excluding women fish vendors, now use ice which is available from the nearby ice factory. The proceeds of every catch are shared between the owner of a craft and the crew. For Thanguvallom, the owner's share is one-third, and for Kochuvallom, the owner's share is two-fifth. The rest is distributed equally between the crew.

Age at marriage

Although, as was stated above, the local committee of the Kraya Seva Samithi, performs some of the functions that the Church performs among the fisherfolk of Neendakara and Sakthikulangara, the records kept in Puthenthura do not lend themselves to the same sort of analysis as the Church records. To obtain a comparative picture with respect to some important demographic aspects, information for all the three villages was collected on the basis of cluster sampling with respect to age at marriage, number of pregnancies and

acceptance of family planning for over 250 or over couples in each of the three villages.

Table III.22 shows that though the age at marriage of women in Puthenthura was already quite high in 1931-40, it still has kept rising. In the decade 1971-80 the female age at marriage had come close to 20. In Sakthikulangara and Neendakara the corresponding figures work out to 18.6 and 18.7 respectively on the basis of the data collected in the manner explained above.

Table III.22

| Period | Puthenthura | Sakthikulangara | Neendakars |
|-------------|-------------|-----------------|------------|
| 1931 - 1940 | 18.3 | 17.3 | 17.9 |
| 1941 - 1950 | 18.6 | 17.9 | 17.8 |
| 1951 - 1960 | 18.0 | 17.8 | 18.4 |
| 1961 - 1970 | 18.9 | 17.7 | 18.8 |
| 1971 - 1980 | 19.8 | 18.6 | 18.7 |

Source: Data collected for this study

Pregnancies per married woman

The data on live pregnancies occurring to married women are tabulated in Table III.23, separately for each of the three Project villages. It can be seen that the average number of pregnancies occurring to women of all ages works out to be the lowest for Puthenthura, but also for women up to age 60 and for women up to age 40. At the same time, it is clear that the number of pregnancies per married woman has been on the decline for all the three villages. Interestingly, however, it appears that in Puthenthura the rate of

this decline was already quite steep in the generation before that of the married women who are currently 40 years of age. On the other hand, in Sakthikulangara and Neendakara, it is this generation which is experiencing a steep decline in the number of pregnancies.

Table III.23

Average number of live pregnancies per married woman in three project villages

| | Sakthi- kulangara | Neenda- kara | Puthen- thura |
|--|----------------------|-----------------|------------------|
| 1. To married women of all ages | 4.74 | 3.86 | 3.70 |
| 2. To married women of upto 60 years | 4.19 | 3.69 | 2.28 |
| 3. To married women upto 40 years | 2.95 | 2.60 | 2.07 |
| Number of couples for which information was collected: | 262 | 250 | 251 |

Source: Data collected for this study.

Acceptance of family planning

To complement the information with respect to pregnancies occurring to married women, it was possible to gather information with respect to the acceptance of family planning by married women still in the reproductive group and those who have crossed the threshold recently. It ought to be made clear that acceptance of family planning in these villages amounts to acceptance of sterilization and that too female sterilization.

It can be seen from Table III.24 that acceptance of family planning is close to 50 per cent in all the three villages and that Puthenthura is somewhat ahead of Neendakara in this regard. It still remains unexplained though that with around the same level of acceptance of family planning in the three villages, Puthenthura manages to keep the average number of pregnancies distinctly lower than that in both Sakthikulangara and Neendakara.

Table III.24

Acceptance of family planning in three project villages

| | Sakthi- kulangara | Neenda- kara | Puthen- thura |
|---|----------------------|-----------------|------------------|
| 1. Total number of married women aged 40 or below in the sample | 130 | 177 | 141 |
| 2. Total number of married women aged 40 or below accepting family planning in the sample | 76 (58.5%) | 89 (50.3%) | 75 (53.2%) |
| 3. Total number of married women aged 50 or below in the sample | 161 | 209 | 181 |
| 4. Total number of married women aged 50 or below accepting family planning in the sample | 86 (53.4%) | 96 (45.9%) | 92 (50.8%) |

Source: Data collected for this study.

Conclusion

Reviewing the overall changes that have occurred in the three Project villages in these past twenty five years we can see certain major differences. One thing that is very clear is that the impact of

mechanization has been very different in all the three villages. It has been of greater intensity in Sakthikulangara, the village nearest to the public boat jetty. It would almost appear that the order of change has been less as one moves away from the public boat jetty, which became really the centre of activity for mechanized fishing. At the same time we cannot overlook the changes which have come about in the other two villages.

Sakthikulangara, has marched away ahead in regard to the ownership of boats. At the same time, however, going by the distribution of boat ownership, the economic inequalities in Sakthikulangara are possibly greater now among the fishermen of Sakthikulangara than in Neendakara and Puthenthura.

The contrasts within the village in housing are quite sharp and can be noticed even by a casual observer. Maximum income increases have been experienced by owners of mechanized boats that has caused and continue to cause, intra-village and inter-village tensions. Precisely because a major part of the activity connected with mechanized fishing is concentrated in Sakthikulangara it has led to a considerable congestion and consequent general deterioration of hygiene in the village. With so many people converging on the public jetty without proper civic and other amenities has itself created severe problems of pollution. Neendakara is by comparison, much less polluted and Puthenthura, of course, even less.

Neendakara and Puthenthura have not altogether been bypassed by the technological change in fishing. This can be seen easily from the involvement not only of fishermen of these two villages in

activities connected within mechanized fishing but also of fisherwomen. So economic prosperity cannot be said to be altogether confined to only one village of Sakthikulangara. Indeed, people from other neighbouring villages have also benefitted from the increased economic activity generated in the Project area as a result of the resort to mechanized fishing.

Not only are many more women occupied in income generating activities there than ever before but also the type of these activities is different and somewhat better. The new work opportunities are less demanding physically and offer a little more income, even when they continue to be subject to no less exploitative relationship. If one notices today greater use of medical facilities, both private and public, it is due possibly not only to the establishment of hospitals, public and private, but also to the increased awareness of their usefulness, which may have followed both expansion to education, particularly among the women of fishing households. But the trend towards higher female age at marriage and smaller family size in all the three villages may be the combined result of the spread of education, increased involvement in work by women and greater access to medical facilities.

CONCLUSION - TECHNOLOGICAL CHANGE AND WOMEN'S CHANGING ROLE

In this chapter a brief summary of the main findings of our study is presented. Since we have used both the macro and micro approaches namely macro surveys and in depth case studies, we shall try to integrate our findings and present our major conclusions. Part I will briefly highlight the main changes technological, economic and demographic, that have occurred in the project area over nearly three decades after the first attempt was made to introduce modern technologies of fishing and fish preservation. Part II will present some of the changes in the status and roles of women taking both the past and present into account. Some of these changes are quantifiable and others not.

PART I

Technological Change

1. On the basis of the information available at the macro level, the impact of technological change in terms of mechanized fishing and the adoption of modern methods of fish preservation has been enormous in the three study villages.
2. The extent of the technological change however, has been quite unequal in the three villages. The maximum impact has been on Sakthikulangara, the village closest to the main boat jetty. It is somewhat less in Neendakara, the other Latin Catholic village

across the highway bridge from the main jetty, and the least in the Araya Hindu Village, Puthenthura, which is located some distance away from the main boat jetty.

3. In all the three village, however, the younger generation of fishermen is quite familiar with boat traditional as well as mechanized fishing and can switch from one to the other with perfect ease.

4. Over the years, there has been a steady increase in the number of mechanized boats owned by fishermen and decrease in the number of traditional crafts, particularly in the two Latin Catholic villages. In 1980 there were 419 mechanized fishing boats as against none in 1953 and 187 traditional crafts as against 477 in 1953.

5. The use of ice for preservation seems to have taken firm roots and spread uniformly in all the three villages irrespective of the method of fishing employed. Even women headload fish vendors use ice when they store their fish or take it out to shell.

6. There has been significant increase in the infrastructure facilities in terms of production of ice and the establishment of freezing and cold storage capacity. In 1980 there were 29 ice plants with a production capacity of 377 tonnes and storage capacity of 325 tonnes. Also there were 15 freezing plants with a frozen storage capacity of 1,625 tonnes. There existed nothing of the sort in 1953.

Economic Change

7. Since the technological change was followed closely by the discovery of major new prawn grounds, a distinct improvement has taken place in the opportunities for employment and income generation in the area comprising of the aforesaid three villages and their neighbourhood.

8. There has been a phenomenal increase in the total catch landings of fish and prawns in the area. Not only is the composition of the catch very different now but also the shift has been altogether towards higher value varieties. The catch which was in the neighbourhood of only 2000 tonnes in 1953 rose to about 85,000 tonnes in 1980. Over two fifths of the quantity now caught comprise of high value exportable varieties like prawns, squids and lobsters. Though the prawn catch per se has violently been fluctuating, it has not affected the incomes of the fishermen as the unit value realised has been consistently increasing.

9. The over emphasis on prawn fishing has however, introduced profound seasonality in operations with the concentration of activity during the three monsoon months between June and September. In 1980, the catch in the three months of July, August and September accounted for two-thirds of the annual total. The area is now exposed to mechanised boats from the neighbouring districts during these busy months leading to tremendous congestion and unhygienic

13. Participation by women in new work opportunities is widespread in all the three villages so that work participation by women has distinctly improved over time.

14. There is also a distinct change in the civil condition of the women workers of these villages. Earlier, either widowed aged divorced women or unmarried girls from single parent household took to paid work. Now married women and unmarried girls from two-parent households account for the large majority of working women from all the three villages. Thus women's work participation has improved qualitatively as well as quantitatively in not only the Latin Catholic villages which accepted mechanisation of fishing but also the Araya Hindu village which did not quite accept mechanization. Qualitatively, however, the women from Latin Catholic villages still have an edge because of their easier access to better paying work opportunities.

Demographic Changes:

15. There is a marked improvement in the sex ratios in favour of women in all the three project villages indicating thereby a lowering of both female infant and maternal mortality rates.

16. The proportion of births conducted with institutional help has increased significantly in all the three villages. While in Sakthikulangara and Puthenthura nearly 100% of the birth take place under institutional care, in Neendakara more than 50% of the births

are conducted in hospitals or nursing homes. Even this lower proportion for Neendakara is higher than the proportion of birth taking place under institutional care for the rural areas of the state as a whole which stood at 45% in 1979. Even for the country as a whole, institutionalized birth stood at only 17% of the rural areas and 35% for the urban areas.

17. The average number of live pregnancies for married women below forty years has come down considerably in all the three villages. In the Araya Hindu Villages, this decline has been quite steep.

18. The acceptance of family planning is close to 50% in all the three villages regardless of religion. At the same time female sterilisation is the only accepted form of limiting the family size.

PART II

The micro level information collected through the autobiographies of the women from the study area enables us to supplement the insights gained at the macro level as to how the women have been affected by the various developments spurred on by the modernisation of fishing and fish preservation coupled with the discovery of rich prawn ground for which there existed a ready market in developed countries.

Here we must start by pointing out that the implicit assumption, which underlay the modernisation project, as originally conceived and designed, was that fisher women had little, if any, direct active role to play in whatever was sought to be achieved by way of improvement in fish production and income from there through technological changes in fishing and fish preservation. This assumption was highly arguable because even though women from fishing households were never directly engaged in what may narrowly be defined as fishing, they always participated in a number of related activities, not all of which got necessarily paid for, which supplemented the average household's income earning capacity. Unfortunately, there is hardly a census of survey that has adequately, captured the full extent of work participation by women from the fishing households. This is as true today as it was a generation ago. Still, on the basis of whatever macro level information we could collect and put together it appears that women's work participation has increased considerably in the three study villages. The picture that emerges with respect to work participation by women from the fishing households both as it was some thirty years ago and also as it is today after a major technological change has come about in the villages under study.

Involvement in work of the previous generation:

The ideal norm both now and in the previous generation among both the Araya Hindu and Latin Catholic fishing households is for women to devote all their time to house work and not to

seek work outside the home. Working outside the home is considered to be essentially a male job, whereas housekeeping and child care are a woman's job. It was felt that by going out to work, women would expose themselves and come into contact with other men. However, from the autobiographies we find that quite a few women from the study villages were doing something besides their day to day housekeeping even in the previous generation in spite of the norm. Women in the Catholic villages reported remembering their mothers husking rice, dealing in broken rices, collecting shells, vending fish, making nets and defibring coir. Among the Arayas, coir defibring appeared to be the single most important occupation of the previous generation. Net making came next. The fact is that most grand mothers and mothers did have some remunerative occupation. Fish vending by headload was an occupation most frequently reported in the Catholic villages whereas midwifery was more common in the Araya village. While Maggie's mother (Sakthikulangara Case Study A) a midwife, and Sarala's mother (Puthenthura case study B) defibred coir. Lilly's mother (Sakthikulangara case study D) was a dry fish merchant. Philomena (Sakthikulangara case study B) reported her mother as a shell collector. Kadamma's mother (Sakthikulangara case study A) and also Beatrice's mother (Weendakara case study E) were headload fish vendors and Goratti's mother (Sakthikulangara case study E) worked in a freezing plant. Only Pankajakshi's mother (Puthenthura case study C) stayed at home and was reported as occupied in domestic chores. May be, she did

repair nets and dried fish for the household, but it is not reported as an income earning activity. It is probably true that many of these activities were seasonal and brought in meagre additional income for a household but the fact cannot be overlooked that these women were engaged in income generating activities.

Work involvement of the present generation:

When we look at the lives of our principal respondents what do we find? Several of them had started doing work at an early age helping their mothers even before they got married. Some worked independently of their mother though in related activities. Maggie (Sakthikulangara case study A) worked as a domestic, Mary (Sakthikulangara case study C) spun coir ropes, Philomena (Sakthikulangara case study B) and Beatrice (Neerdakara case study E) collected whells. However, it would appear that the Araya women were less involved in work as children since most of them were attending school. Take, for example, the case of Ramani, Sarala and Iankajakshi the three Araya women respondents. (Futhenthura case studies A, B and C all the three have put in five or more years of schooling. On the other hand, Latin Catholic women respondents had practically no schooling and were totally illiterate. This probably could be one reason for the Araya women not taking to work as children. Some of the Latin Catholic women gave up work after they got married, while others took to work that would bring in slightly higher earnings. For instance, Maggie (Sakthikulangara case study A) became a headload fish vendor, soon after her marriage.

Now, she is engaged in fish trade as an agent and does not go hawking fish from door to door.

What is noteworthy is that only two out of our ten respondents are not engaged in some income earning activity or other now. However, several of them were confined to their houses bearing and rearing children for the first few years after their marriage. It is equally noteworthy that the work they are now engaged in is quite different in nature and income generation than what their mothers were engaged in or what they themselves did as children. Mary (Sakthikulangara case study C) for instance, was herself spinning coir ropes as a child while her mother defibred coir husks. She is now engaged in fish trade as an agent in prawns. Beatrice (Neendakara case study B) also has graduated from shell collection to fish trade while Kadalamma (Neendakara case study A) has been able to switch over from head-load fish vending to the management of her household boats. Sarala (Puthenthura case study B) runs a mutual saving club and a woman's tea shop while Ramani (Puthenthura case study A) started making nylon trawl nets for use in the mechanised boats. Fankajakshi (Puthenthura case study B) worked as a peeler of prawns for wages for several years but has lately taken to net making at home. Mary (Sakthikulangara case study C) works as a peeler of prawns for wages, whereas Goratti (Sakthikulangara case study E) runs a peeling shed.

Not only has the type of work changes in each case, but also the income such work yields has improved considerably. Since fishing, mechanized as well as traditional, is still highly seasonal, the associated activities have also tended to be equally seasonal in terms of the employment and income they offer.

For the present generation, particularly those born in the nineteen fifties, work opportunities definitely seem to have increased among both the groups, the main difference being that work opportunities within easy reach of women from Catholic villages were far more remunerative than those open to women from the Araya village.

Involvement in work of the younger generation:

What is the involvement in work of the younger generation? Four out of our ten respondents have married daughter, daughter-in-law, or both. They number eighteen in all. Only four out of these eighteen women working. The rest are staying at home, mostly bearing and rearing children. There is no doubt the economic pressure under which their mothers/mother-in-law were forced into work. But it is not certain that once they are free from the responsibilities of bearing and rearing children, they will be satisfied doing just the domestic chores, particularly when economic opportunity knocks at their doors. Also, then they won't have to play the subservient role they now play as mere housewives-cum-mothers.

It is relevant to bear in mind that all these eighteen young women have had better levels of education and better access to medical facilities than their mothers. It is very likely that most, if not all, of these women will take steps not to undergo excessive child bearing. To the extent this comes about many of those not working now may decide to take to some work activity or other once their children are sufficiently grown up.

Thus, regardless of whether or not one subscribes to the view that work participation by fisherwomen was rather low when fishing was pursued on traditional lines, the fact remains that women's work participation under changed technological conditions is vastly different and better paid, judged from the inter-generational changes that our case studies/reveal.

Work and change in life styles:

Involvement in work has brought in major changes in the life style of several of our respondents. Work now means not only going out of the house, but also meeting, dealing and competing with men other than those from their own households, taking independent financial decisions and handling comparatively large sums of money. Those of our respondents who, by dint of their hard work and business acumen have become reasonably successful in their work, carry a lot of weight in these households. Kadalamma, Beatrice (Neendakara case studies A and B) Ramani Sarala (Puthenthura case studies A and B) and Maggie (Sakthikulangara case study A) contribute significantly to the family

income and enjoy within their respective household a status all their own. In fact, no important decisions are taken without consulting them.

In such cases, it has also meant a new kind of role for men. Normally, men in the fishing households are not in the habit of helping in any of the so-called female tasks or taking care of the children. Not even when they are not occupied full time in their own work activity. Now with women going out for long stretches of time, men have to take on some responsibility for the care of children coming back from school. Also, men in these households generally get more involved than before in the running of the day to day affairs of the house.

The kind of freedom and status that our eight working respondents enjoy, the two non-working respondents, Philomena and Lilly (Sakthikulangara case studies B and D) both Latin Catholics, do not have. They continue to play the dependent, subservient role of the traditional home bound wife. For these women, their contact with the outside world is only through their husbands or the extended family. These women ask no questions and try not to differ whatsoever with their husbands. It ought to be borne in mind, however, that part at least of the reason why these women have not entered the labour force so far, is because of their child-bearing and relatively young age, being in their mid-thirties. Of course, each of them has already six living children and has now gone in for sterilisation, but child rearing might well keep them

tied to the house for some more years. But to go out to work for at least one of these two women, Philomena, would involve overcoming the reluctance of her men to let her go out and mix freely with other men. In Lilly's case, her indifferent health may carry a much more overriding weight.

Literacy level:

When we look at the status of female literacy, the inter-generational change has been quite pronounced. The mothers of all of our ten respondents were totally illiterate; not even one of the mothers is reported to have had the benefit of attending school. However, in the case of our respondents, the position improved, but not equally for women from the Araya and Latin Catholic households, while all our three Araya women respondents are literate, having attended school for five years or more, four out of seven Latin Catholic respondents are completely illiterate, not having had any schooling altogether; the other three have been to school for three years or less and are now unable to read and write. When we come to the children, boys or girls of our respondents, the position is remarkably similar for both the religions in that they have all been sent to school for sufficient length of time (with the sole exception of Kadamma's family Neendakara case study A). In the case of Beatrice (Neendakara case study B), her daughter has passed through school and is going to college now.

Thus there can be no doubt that remarkable improvement has been achieved among the Araya and Latin Catholic fisherfolk of the three study villages with respect to literacy level from one generation to the other. It is noteworthy that in this respect, girls are not lagging behind.

What are the kind of changes that have occurred on the demographic side?

Importance of marriage :

There appears to be no change with regard to the ideas about universal marriage. Among both Latin Catholics and Araya Hindus, marriage is universal. Most young men, whatever be their physical handicap, have been married. Though among the Catholics one could lead a celibate life as a nun or a priest, we do not come across a single such instance from our case studies. Both groups subscribe to the idea that marriage is universally necessary and that life is incomplete without it.

Age at marriage:

In spite of better levels of education and better economic status, the age at marriage has not been pushed up considerably. However, we must remember that the age at marriage was considerably higher than the all-India average for both the groups even at the turn of the century. The concept of pre-puberty marriage hardly existed in this part of the world. Between the two religious groups, the Araya age at marriage has shown signs of

rising more than the Catholic age. Judging by the case studies and Parish records, the age at marriage has increased by only about one year in a period of 80 years among the Catholics. The age difference between the bride and groom has remained the same, around six to seven years.

Looking at the case studies, we find that the age at marriage was low, around 16 to 17 years, for all the mothers of our respondents. Although even our respondents themselves were married at a relatively young age, it would still be correct to say that they were married somewhat later in age than their mothers. However it is not quite clear that the new generation of girls is marrying later. At least, this does not seem to be so with regard to Latin Catholic respondents who went into wedlock at the age of 18 or below. In fact, their average age at marriage works out to 16.5. On the other hand, the average age at marriage of the four married daughters of our Araya respondent works out to 20. Girls from Araya households tend to get married around the age of 20, whereas Latin Catholic girls, it appears, still get married around 17. Beatrice's daughter (Neendakara case study - B) who is in college, is an exception, not at all the rule. One possible reason for delayed marriages among the Araya fisher women could be that they tend to take to work even when unmarried whereas this is much less so among Latin Catholics. On the other hand, there is, as we shall note presently, a phenomenal rise in dowry among the Latin Catholics and this factor is bound to operate as a brake on early

marriage because parents have to put together the necessary resources before they can marry off their daughters. Clearly, however, this factor has not had this impact so far.

Arranged marriages:

Among both Latin Catholics and Araya Hindus, marriages are arranged by parents and other relatives. Marriages are agreed as between families, the major portion of the responsibility for finding the right groom or bride falling on the relatives. The main considerations that affect the choice of a partner are Caste, religious group, possible dowry and economic position; the family background is also investigated.

In both groups, there are certain rules as to who should marry whom. Among Hindus, cross cousin marriages are preferred but among Catholics this kind of marriage is prohibited and a large number of other relatives are also excluded from marital partnership. As a result, Catholic households keep a good track of their genealogies. Most families are able to trace back three to four of their generations. In our case studies, with a single exception, it has been possible to construct genealogy tables for all the Catholic fishing households in our sample. The Church also keeps systematic records of births, deaths and marriages, which can be a source of ready reference. Among the Araya Hindus, on the other hand, both recall and construction of genealogies have been difficult. Divorce and common law type marriages are accepted

by them and there is no systematic recording of vital events. In most cases we could go back no further than two generations. Among Catholic fishermen the general preference is to find a match within the village itself, and in 90% of the case histories we could reconstruct both bride and groom belong to the same village. Among Araya fishermen on the other hand, a lot of marriage alliances seem to take place within a larger geographical area, covering three to four neighbouring fishing villages.

Spread of Dowry:

Dowry among the Latin Catholics was of very modest proportions and virtually non-existent among the Araya Hindus at the turn of this century. None of the case histories of the Araya women mentions dowries in earlier times. Many Araya grandmothers and mothers were married without any exchange of dowry at all.

Though dowry is not an entirely new concept in these fishing villages, it did not prevail in the way it does today. If we look at the dowry transaction that took place when the mothers of our respondents got married, we find that most of them got married with a dowry comprising of silver trinkets; only occasionally did a cash sum of Rs.50 or so pass hands. Of course, then the value of the rupee was several times the value today in terms of what goods and services it can buy. It was only Lilly's mother (Sakthikulangara case study - D) who was given some land in dowry and Sarla's mother (Puthenthura case study - B) who was given a

cash amount of Rs.300 a long time ago in those days. But the situation had changed by the time most of our respondents themselves got married. The older of our respondents still got married with virtually little exchange of dowry. Ramani, Pankajakshi (Puthenthura case studies - A and B), Kadalamma and Beatrice (Neendakara case studies - A and B) got married with no exchange of dowry whatsoever. Even Sarla (Puthenthura case study-B) though much younger in age, was not given any dowry despite the fact that her mother had got dowry in her marriage. But Sarla's marriage was not an ordinary one, having been entered into despite her father's strong disapproval. Of our respondents in mid-forties, Maggie and Mary (Sakthikulangara case studies - A and C) were given a modest dowry in the form of liquid cash but Philomena (Sakthikulangara case study - B) was given a pair of golden bangles and promised some land. Two out of our younger respondents, Lilly and Coratti (Sakthikulangara case studies - A and B) had to be given handsome dowries. While Coratti was given a cash of Rs.3,000 in dowry when she got married in 1969, Lilly who got married in 1970 was given Rs.6,000 in cash in addition to gold equivalent in value. Thus, by the late sixties, dowry had escalated considerably. It is noteworthy, however, that this is among the Latin Catholic fishing households that the escalation in dowry has been significant.

This could be explained by their recent prosperity in the wake of mechanization of fishing and the discovery of prawns in large quantities.

Dowry in recent years:

With the situation in regard to dowry worsening in recent years particularly among the Catholic fishing households, the parents have to put aside very much larger sums than even before to get their daughters married. Naturally, they expect their sons to bring in equally large dowries. When Maggie's son got married, his wife was given Rs.10,000 in dowry (Sakthikulangara case study-A); Kadalamma's sons were not far behind (Neendakara case study - A). Both these women have given handsome dowries to their daughters in marriage. Beatrice (Neendakara case study - B) has been somewhat different than most in investing in her daughter's college education; it is not certain however whether she is only putting off the day she will have to shell out a large amount in dowry or she can altogether avoid the necessity of giving away a large dowry, assuming that the daughter will on the strength of her higher education, be able to secure a regular job and thereby supplement the husband's income.

Dowry among the Arayas:

In the Araya village, the dowry situation is not that bad as it is among the Latin Catholic fishermen. The sums that have to pass hands at the time of marriage are somewhat smaller. But the Araya fishermen are, on the whole, not doing as well economically as the Latin Catholic fishermen. The important fact is that the dowry is now no less strongly rooted among the Arayas as among

the Catholics. Though Pankajakshi (Puthenthura case study - C) got a decent dowry for her son's wedding, she could not give much dowry when two of her daughters were ready to be married; that is why they went away with Catholic men, which is something that the Araya community does not approve of. More recently, when she arranged the marriage of her youngest daughter within the community she had to give away a dowry that added up to a couple of thousand rupees. It is a different thing that still the marriage did not succeed and the girl is back home with her parents.

Composition of the Dowry:

Dowry usually is given in cash, land and gold in the form of ornaments. Both among the Arayas and Catholics, the dowry is recorded. Catholics report it to the Church and it is recorded in the register maintained in the Parish church for marriages; the Arayas register their dowries with the Araya Seva Samithi. Cash is usually handed over during the engagement ceremony to the groom's parents. Gold takes the form of jewellery and is worn by the girl, the gold content and purity being discreetly checked, and discrepancy resulting in the rejection of the girl. Parents seldom risk therefore getting into such trouble. But troubles do arise.

Mobilising the Dowry and modes of payments:

Whatever the differences in regard to proportions, dowry has come to stay for good in both groups. The responsibility of raising it generally falls on the father (or the brothers) among

both the groups. It is easy to imagine the plight of a father with many daughters, for if he cannot find the money himself, he must raise a loan. Owing to lack of resources, marriages often take place on part-payment of the dowry coupled with a promise to pay the rest later on: parents thus buy some time. Thus, in the case of Goratti (Sakthikulangara case study-E) her mother's land was acceptable as security, and she did not have to part with the promised cash amount immediately. In Philomena's case (Sakthikulangara case study-B) some land was promised, but a quarrel arose when it was not forthcoming. In several cases, the amount is paid at the engagement ceremony for every one to see, but once the wedding is over, it is borrowed back by the girl's parents as a loan. This happened to the dowry which Ramani's (Puthenthura case study-A) daughter-in-law brought in marriage. If the dowry transactions are not kept honourably, it leads to endless misunderstandings, which tend to find their expression in verbal exchanges and sarcastic remarks. The situation is further aggravated when the girl goes for her confinement to her mother's house, as is the custom, and is not called back or not allowed to return unless she brings back the promised amount. Even in cases where the girl has brought the full dowry there seem to be endless misunderstandings with regard to its use. The problem arises because the in-laws feel that the dowry should belong to them for they have invested in the son. The girl's parents, on the other hand, give it on the assumption that the dowry is meant for use principally by the girl and her husband.

Nevertheless, the true ownership of the dowry is not made explicit. Usually, the boy's parents want to make use of it either to marry off daughters or to clear past debts. But the unwritten rule is that they cannot ask for it; only the boy can. So they have to gain access to the dowry through the son who in turn exercises his authority on the dowry through his process over the bride. In the initial period, since the girl is usually in a rather weak position, she can often be made to agree to anything as it happened to Ramani's daughter-in-law. (Puthenthura case study - A)

Use of dowry money:

We have had many instances where the husband has used the dowry, his wife brought to buy a craft or boat, build a house or buy a passage to the Gulf. Generally, the bridegroom is allowed to dispose of the sum as he likes with little difficulty and misunderstanding on both sides. But it is when the groom's parents try to use the dowry that complications start. The possibilities of manipulation of the dowry by the bridegroom's parents are many and such instances seem to take place frequently. Sometimes, as happened to the dowry brought by Ramani's daughter-in-law, it is direct; in other cases, it is more subtle and is done through the son. But when such instances occur, they seem always to create complications. In the event of the death of the husband or the break up of the marriage, as does happen sometimes among the Araya fisherfolk, the dowry ought to be returned. Where there is dispute on this score, the Church/Samithi has to step in.

Family size:

One of the most dramatic changes that seems to have occurred in the study villages in recent years is with respect to the family size. This came out clearly from the macro-picture and is fully confirmed by the case studies. There is, as has been noted above, no change in ideas about the importance of marriage. Not only is marriage universal among both religious groups but the idea that a new bride must produce a child and preferably male, without undue delay, holds good to this day. She has to prove her fertility and thus assure the continuity of the family line. Among the Arayas a woman who gives birth only to daughters or one who has no children can be cast off. Sarla's mother (Puthenthura case study-C) was asked to go back to her parents as the astrologers prophesied only birth of daughters to her. Ramani (Puthenthura case study-B) wants her son to send his wife away, because she has not conceived at all.

Among the Catholics, on the other hand, infertility or lack of a male offspring is not enough justification for separation or remarriage. Beatrice (Neendakara case study - B) has had daughters only, but the question of divorce or separation for that reason never arose in her case. Only the death of a spouse allows a Catholic to remarry. Lilly's sister got remarried only on her husband's death (Sakthikulangara case study-D).

This tremendous concern over childlessness in both groups is reflected in the religious vows women take and in Ayurvedic



portions and allopathic treatment resorted to in the hope of making an infertile woman fertile. One has not heard of potions or vows for a woman to be saved from excess fertility.

Given the tremendous concern over fertility and the arrival of male children, it is of no great surprise that all our ten respondents were born in families with a rather large number of children. Three out of our ten respondents, Kadalamma, Beatrice (Neendakara case studies - A and B) and Philomena (Sakthikulangara case study - B) came from families each having ten children. Five of our respondents came from families each with eight children; of the remaining two who came from families with six children each, their mothers were widowed rather young. Both Maggie and Goratti (Sakthikulangara case studies - A and E) lost their fathers when their mothers were rather young and still in their child bearing years.

As for the respondents themselves, five out of ten have had fewer number of children than their parents; four have had larger number of children and one has the same number as her parents. However, the average number of children per respondent works out to be a little higher than it does for their parents, 6.7 against 6. So, the shift towards a smaller-sized family cannot be claimed for our respondents. It is still noticeable that the number of children born to the parents of our Araya respondents was distinctly smaller than to the parents of our Latin Catholic respondents, 4.3 and 6.3, and the same situation obtains with respect to the respondents themselves.

It is when we come to the married sons and daughters of our respondents that we notice a distinct tendency towards a decline in the number of children. Maggie (Sakthikulangara case study - A) Ramani, Pankajakshi (Puthenthura case studies - A and C) and Kadamma (Neendakara case study - A) are the four respondents with grown up married daughters and sons. The number of these young couples, as has been indicated above, adds up to eighteen, with women ranging from 21 to 37 years. Six out of these eighteen women have already undergone sterilization. Of these six (four Araya women and two Catholic women), as many as three underwent sterilization after having had only two children. All of these three women were Araya Hindus. Of the twelve women who are not sterilized, three are above the age of 30. One of these had six children, another two, and the remaining one has none. Of the nine non-sterilized women below 30, only one has four children, three have three children each, two have two children each and two have one child each.

It is reasonably safe to say on the basis of the above that the tendency towards a decline in the number of children prevails among the young Latin Catholic as well as Araya Hindu fishermen though the latter seem to be some what ahead of the former. The data available at the macro level supports this conclusion.

Type of care at child birth

Not only did the mothers of our respondents have large families, but they also delivered all their children at home with

little or no qualified medical help. The custom among both religious groups is for the wives to go back to their natal homes, at least for the first few births. Apart from thus shifting the financial burden of the birth on the bride's parents, the practice was meant to give the bride some emotional and psychological support and also time to recuperate by keeping the couple apart in their respective homes. The separation period among the Catholics is just one month, till the child is baptized. Among the Arayas, it is longer. The elder Araya women feel that this led to better spacing of births. Now with the greater availability of medical help in the study area many daughters-in-law do not even go back to their natal homes.

A certain course of Ayurvedic treatment is given to the new mother in both religious groups irrespective of the means of the households. The faith in and awareness of Ayurvedic medicines is uniformly of a high order and well spread. Most women, young and old, recall the care given to them after delivery. There is not much change with regard to the after delivery care of the new mother over the years. The major difference now is that with the increasing shift of deliveries from home to hospital, the need for immediate after-delivery care of the mother within the house is considerably reduced, particularly because the hospitals invariably provide after-delivery attention.

Thus while in the previous generation, not only did the mothers of our respondents have large families, but they also

delivered all their children at home with little or no qualified medical help. However, all of them, whether Latin Catholic or Araya Hindu, were aware of and followed the traditional methods of prenatal and post-natal health care. While in the previous generation, not one mother had made use of hospital facilities, all our ten respondents, without any exception, had been to the hospital for at least some of their deliveries. The three older respondents, Kadalamma (Neendakara case study - A) and Ramani and Pankajakshi (Puthenthura case studies - A and C) who are now in their mid fifties, had their first few children at home and the latter ones at hospital. The three younger respondents who are in their early forties, Maggie, Philomena, and Mary (Sakthikulangara case studies - A, B and C) had only one child each delivered at home; the rest of their children were delivered in hospital. The remaining four respondents had all their children delivered under hospital care.

In the case of the daughters and daughters-in-law, the question of choice between home delivery and hospital delivery does not even crop up as the shift of births to hospital has been total.

There can be no two opinions that in recent years things have changed remarkably. In Puthenthura, the Araya Hindu village, we do not have one case of home delivery since the Government-run Foundation Hospital opened its maternity ward. In the two Latin Catholic villages also though the shift has been very substantial,

in the choice of hospital, several opted for delivery in Mission nursing homes to the public hospital even though the former charged for their services. Only when they made up their mind to undergo sterilization, in spite of the known injunctions of the Catholic Church against it, that they would go to the public hospital. The Mission institutions would not perform this.

Child mortality:

Loss of children at an early age used to be frequent in both groups. Elderly Catholic respondents recalled the continuous ringing of Church bells indicating usually infant deaths.

It would appear from our case histories that more than half of the mothers of our respondents had experienced the loss of two or more children and this does not take into account abortions and still births, if any. This position seems to have improved considerably in the lives of our respondents. Though Maggie and Philomena (Sakthikulangara case studies - A and B), both lost their first order births, probably because of their young age at marriage and lack of proper care, all their subsequent children survived. Ramani (Puthenthura case study - A) lost three children, and Pankajakshi (Puthenthura case study - C) one, but we must remember they both belong to a slightly elder generation as they are already past their fifties. If we were to look at the younger married women in their mid-thirties, Lilly, Goratti (Sakthikulangara case studies - D and E) or Sarla (Puthenthura case study - B) we find that they have not experienced the loss of any child. The

picture improves considerably more when we take into account the present generation of daughters and daughters-in-law. Of the eighteen married daughters and daughters-in-law, only three have reported loss of children and that too one each.

The frequency with which women reported the loss of a first child was higher for births that took place before the nineteen-sixties than later. Two factors could be involved in bringing about improvement in recent years: one the somewhat higher age at marriage, the other child birth with better care, particularly because of institutional help. The general pattern that would emerge from our case studies is that the relatively high risks of first birth have been greatly reduced. Relatively higher mortality rates that were evident for first order births before the 1960s do not seem to hold true any longer.

Not only did first order births meet with greater mortality, but many women reported obstetric and gynaecological morbidity due to frequent child bearing. Women who had a large number of births in their child bearing ages between 1920 and 1960, showed a high proportion of obstetric complication. We have noted five cases of women where the uterus has been removed out of a total of ten. All have had more than five pregnancies.

Feeding and birth interval:

In spite of the increased affluence there appears to be no change in the feeding pattern of children. Infants are, as a rule, fed on breast milk on demand. Generally, breast-feeding is stopped

when the next pregnancy occurs. In most cases, the pregnancy interval seems to be of around one year and a half in spite of breast feeding. We have come across only two cases where there has been a spacing of six to seven years without resort to any spacing devices. It would appear, therefore, that in spite of the practice of breast feeding, the interval between pregnancies has been, and continues, to be quite short.

In both religious groups, the idea of taking to contraception for spacing has not taken root. The idea is to quickly have as many children as one wants and then go in for female sterilizations. The acceptance of female sterilization reflects also a basic preference regarding about who, husband or wife, should undergo an operation, once it is agreed that no more children are needed.

Family planning status:

Now that the family is reasonably assured that the children they will have will survive and also an alternative in the form of improved technology to limit births is within easy reach, how have our families responded?

In the case of our respondents' mothers, the question of planning the family size never arose as access to modern techniques of family planning were not available during their times. So, all of them had children till they completed their child-bearing period or till there was some biological problem.

However, in the case of our respondents, including those who are today in their mid-fifties, not only was an awareness created, but also a facility was brought within their very easy reach in the maternity ward of the hospital set up in the study area under Indo-Norwegian project. This hospital is now run by the Government it has been noted already that all of our respondents, irrespective of their ages, went to a hospital for some at least of their child births. Even those who had three, four children at home, shifted to the hospital when the facility became available. Furthermore, by now all the ten respondents have been operated upon, five older ones for hysterectomy, and the five relatively younger ones, for tubectomy. It can safely be said that the latter have undergone operation with a view to limiting their families even though it was done after they already had quite large size family. Maggi (Sakthikulangara case study - A) went in for surgery after seven children, Mary (Sakthikulangara case study - D) after six and Sarla (Puthenthura case study B) after four. Only Goratti (Sakthikulangara case study E) one of our young respondents, decided to go in for sterilization after three children. All of them told us that they were being advised to get sterilized earlier, but it took them and their families time to make up their minds. It is interesting to note that all of them had reservations with respect to the after affects of sterilization and now complain about frequent headaches and general weakness.

In the case of the married daughters and daughters-in-law of our respondents, though they all are still in the child bearing age as many as one-third of them (six out of eighteen) have already undergone sterilization, half of these, as already stated above, after having had only two children. Of these who are not protected from child bearing, it would appear unlikely that barring an exception or two, others would go in for large sized families, though this can be said with greater confidence with respect to the Araya fisherwomen than Latin Catholic fishermen.

Some General Observations and Suggestions.

It comes out quite sharply from our evaluation of the development experience of the three study villages of fishermen in Kerala that though women from fishing households were altogether excluded from the core programme aimed at modernising of fishing and fish preservation they still availed themselves considerably of the various opportunities and facilities the new situation created for them. This was true of not only women from Latin Catholic villages which had accepted the new technology of fishing but also women from Araya Hindu village.

The case of Araya women is remarkable in that their menfolk had been not quite forthcoming in the acceptance of the programme of mechanization. These women came forward to take up whatever new opportunities of work were created as a result of the phenomenal growth in economic activity in the wake of mechanization and discovery of prawn grounds in the area.

Of course, because of the problems of access while women from Catholic villages were able to take up self-employment in trade and processing, women from Araya village could only enter wage employment either in processing factories or as casual workers at or near the public jetties in the various peeling sheds. The fact that their menfolk were engaged in fishing trade or related activities was a matter of great support to Catholic women. The Araya women had on the other hand to wade on their own with little

support from their menfolk. Several of these Araya women who, for some reason or the other could not go out of their village for work for wage employment, took to making of nylon nets, a work that fetched some income, however small, and could be combined with house work.

In terms of policy implications the experience in the three villages clearly demonstrates that there is hardly a development project which does not have a women's dimension to it. Here was a programme for the modernization of activities which were generally considered as male activities in which women, by tradition, were playing little, if any role. In the design of the principal project also, women were assigned absolutely no role. Still, looking back over the past thirty years or so, it is difficult not to notice the distinct increase in women's involvement in economic activities very closely related to the operations that were sought to be modernised. One is, therefore, strongly led to suggest that as a general rule no development project should overlook the possibilities which the realisation of development would throw open for women on the project's completion. It is not enough to provide as part of a development project, for the building up of social infrastructure, as for instance, was done in the design as well as implementation of the study project.

There can be no doubt whatsoever that if in the design and implementation of the study programme care had been taken to assign fisherwomen of the study village a role in the processing freezing

and trading of fish, the participation of women in these activities would not only have been larger than today but also at a much more different level. Today, their participation in these activities would not only have been larger than today but also at a much more different level. Today, their participation in these activities is no doubt very much beyond any expectations they entertained but is still at a level which is either marginal as in the case with the Catholic, women who do small scale trading and processing of prawns are very subservient as is the case with Araya women working for wages in processing factories or engaged in pre-processing activities right at the jetties when the fish catches are landed from mechanized boats. While wages are low and work highly seasonal the environment and the conditions in which these women are made to work call for considerable improvement in terms of both general hygiene and the health of the working women.

In net making, where Araya fisherwomen predominate the relationship is even more exploitative though women engaged in net making have the advantages of working at home. The wage they earn per house of work from net making works out to less than half of what a woman earns from work in a prawn processing factory. Net making in the study area shares this aspect of low wage with several other industries in the countries where production is organised on a putting out system under which women from very poor households can be enlisted for work at such subsistence wages. The point of our analysis is that the study project could have been

so designed as to provide adequately for such forms of organisation for different types of activities, duly supported by finding facilities that would have allowed no scope for exploitation.

The battle is, however, not altogether lost in that a number of steps could still be taken to improve things:

- i) Provision of training for women in the basics of preservation and processing of marine products.
- ii) Training in the elements of trading and commercial accounting.
- iii) Encouragement to operate in cohesive groups, wherever it is workable proposition, so that women can undertake to work jointly on a profit sharing basis and middlemen can be eliminated.
- iv) Construction and maintenance of peeling sheds on scientific lines to be rented out to groups of working women from day to day or even shift to shift in peak season.
- v) Orientation of deposit-cum-credit policies of various financial institutions to meet the financial needs of these women from the fishing households undertaking any of the activities related to fishing.
- vi) Organisation of net making on a co-operative basis by encouraging and training housewives from fishing households to work together. Any scheme or project which proposes to mechanise net making and undertaking it on a large scale will be an absolutely disastrous way of tackling the present situation.
- vii) Where women must still work for wage employment, in factories or at home, minimum wage should be legislated and the wage enforcement machinery must see to it that the legislation is implemented.

While the importance of taking the women's dimension fully into account in all core programmes cannot be overrated, it goes without saying that all development projects and programmes, regardless of the attention they are able to pay to the women's participation in the core programmes, must always have a strong social infrastructure component. All that has been possible to achieve in the three study villages in terms of demographic improvements demonstrates in good measure that investment in social infrastructure can yield considerably dividends. We have seen that women from all the three villages, regardless of religion, and irrespective of the extent of response to the core programmes, availed themselves fully of the new public health and medical facilities created as part of the study project, for the benefit of their villages. As a result, once they gained greater sense of security with respect to survival of children and as the awareness of both the importance of limiting family size and the availability of sterilization facilities right at the door steps increased women from our study villages showed a remarkable readiness to take to family planning.