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BASIC NEEDS OF 39 COASTAL FISHING COMMUNITIES IN KANNIYAKUMARI DISTRICT, TAMIL NADU, INDIA

A Survey to Investigate and Prioritise Problems regarding Services and Infrastructure

BOBP For Fisheries Management
BAY OF BENGAL PROGRAMME

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Mimeo Series

BASIC NEEDS OF 39 COASTAL FISHING COMMUNITIES IN KANNIYAKUMARI DISTRICT, TAMIL NADU, INDIA

A SURVEY TO INVESTIGATE AND PRIORITISE PROBLEMS REGARDING SERVICES AND INFRASTRUCTURE

by

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BAY OF BENGAL PROGRAMME,
Chennai, India
2000

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Preface

This document describes a survey of the basic needs of 39 coastal fishing communities of Kanniyakumari district, Tamil Nadu, India, as perceived by the communities. The survey investigated and prioritized the communities' needs for basic services such as water, education and health care.

The survey was a co-operative effort of the Tamil Nadu Department of Fisheries, the Coastal Peace and Development Committee of the Kottar Diocese, and the Bay of Bengal Programme (FAO/UN).

The survey was carried out during the first half of 1998 by two local enumerators in each village selected by the Coastal Peace and Development Committee. All the enumerators were together imparted training for a day by the BOBP on the conduct of interviews, and given questionnaires. The enumerators conducted group interviews with fisherfolk of the 39 communities, both men and women, about the status of local services.

This document details the findings of the survey and the comments by the respondents. It is hoped that these are found useful by various government agencies and the church in improving the status of basic services and infrastructure in coastal areas of Kanniyakumari district.

The survey, and this report of the survey, are part of the BOBP's effort in co-operation with the Tamil Nadu Department of Fisheries to improve fisheries management in Kanniyakumari district. Toward this end, the BOBP held a number of stakeholder consultations in the district during its Third Phase, which began in 1995.

The BOBP is a multi-agency regional fisheries programme that operates in seven countries around the Bay of Bengal - Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka, Thailand. The Programmeplays a catalytic and consultative role in developing coastal fisheries management in the Bay of Bengal, thereby helping improve the conditions of small-scale fisherfolk communities.

The BOBP is sponsored by the Governments of Denmark and Japan. The executing agency is the FAO (Food and Agriculture Organization of the United Nations.)

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Contents

List of Figures and Tables

<<

BACKGROUND

Kanniyakumari district in the state of Tamil Nadu is situated at the southern tip of the Indian peninsula, bordering the Bay of Bengal, the Indian Ocean and the Arabian Sea. A major tourist attraction, Kanniyakumari is known for its agribusinesses in rubber, coconuts (copra), rice and spices.

Kanniyakumari has a long fishing tradition. Thirty nine fishing communities inhabit the 68 km stretch of the coast. They include some 120,000 fishers, of whom 25,000 engage in active fishing. The skills of these fishermen are regarded highly all over India. Boats from the district are found along the entire coastline. It is only during the southwest monsoon (when a ban on trawlers is in force in most states) that they return to Kanniyakumari district.

Over the years, the intensity of fishing has increased dramatically – partly on account of the increase in the active fishing population; partly due to the lack of alternative income-generating opportunities; and partly due to motorization and mechanization of fishing crafts. The resource has not kept up with the increase of effort. Result: a sharp reduction in catch per unit effort (CPUE). Some traders estimate a 60-75% reduction over the last decade. The parallel increase in prices protected the earnings of fishers for a while from the effect of lower catches, but even this buffer is wearing off, and earnings are declining.

With competition running high during the past decade, conflicts among fishers, leading to violence, are endemic. Mostly peopled by Roman Catholic fishers, the coast of Kanniyakumari has over the last two decades seen every kind of conflict – inter-caste, inter-religious, rich-poor, also artisanal fishers-mechanized fishers.

Local government authorities usually treated the conflicts as law and order issues. Although violence was suppressed and law and order enforced, the conflict was rarely resolved. It came back in different mutations to haunt the local public. The basis of these conflicts is the modernization drive of fishing vessels and gear for which State subsidy schemes have been in place since the 1960s. These schemes initially encouraged the introduction of mechanized trawlers; later, the motorization of vallams and kattumarams.

Since the ushering in of mechanization in 1958, artisanal fishers have with dismay compared the landings of the mechanized crafts with their own meagre catches. Besides, the artisanal fishers have often seen their nets destroyed by mechanized boats. Now that many kattumarams and vallams are motorized, more conflicts loom large – since artisanal fishers are able to access the same fishing grounds as the bigger mechanized boats.

Despite the increasing fishing intensity in the district and the falling CPUE, no one has causally linked the problems to resource limitations. Until recently, Kanniyakumari fishers and the Government of Tamil Nadu were not ready to accept the fact that resource limits had been touched. In fact, subsidy schemes for the purchase of craft, engine and gear are still in place. Modernization of vessels and gears is still regarded as a solution, although all signs suggest the contrary.

By baring the realities, building awareness, and nudging people towards consultation and negotiated management, BOBP is persuading a focus on management of fishing effort, on sustainability.

INTRODUCTION

During 1997 and 1998, 11 stakeholder consultations were held in Kanniyakumari district. The various stakeholders identified were fisherfolk representing the interests of the villagers (including fish traders, boat builders, boat and engine maintenance groups, money lenders, etc.), fisher union representatives, fishermen co-operative societies, village district and state government officials.

Both resource user and non-user stakeholder groups held in-depth discussions on the existing conditions, needs, problems and possible solution options for the fishing industry. The results from the consultations were grouped for follow-up action and submitted to the organizations and agencies concerned. Sample solution options:

- Participatory initiatives by fishers to manage their fisheries in a sustainable manner (e.g. cutting fishing effort of trawlers, diversification of fisheries, use of artificial reefs);
- Requests to government agencies to provide basic infrastructure to improve fisheries operations (e.g. the need for hook-shaped jetties along the coast for proper berthing of crafts and for installation of protection walls or boulders against sea erosion);
- Law and enforcement by government (more action is required from the government in this area);
- Research on commercial marine species (e.g. to identify spawning periods and grounds) by government research agencies to avoid excessive fishing;
- The Coastal Peace and Development Committee (CPDC), established by the Roman Catholic Kottar Diocese, which covers all fisherfolk communities, should be encouraged as an institutional forum to resolve conflicts between stakeholders;
- Development and welfare of fisherfolk communities (provision of most needed services and infrastructure such as coastal roads and transport).

These recommendations mark the beginning of co-operation among different groups of stakeholders to respond to the specific needs of the fishing community, also a new spirit of responsible activism on the part of the fishing community itself. For instance, the self-regulatory measures concerning artisanal and mechanized fishers calls for commitment by the fishing groups to negotiate an agreement and stick to it. There is a need for concerted effort to encourage new initiatives and welcome closer participation between stakeholders in the fishing industry.

In the context of Kanniyakumari district, this means that two of the most influential stakeholders – the Government of Tamil Nadu and the Roman Catholic Kottar Diocese – must be aware of the important part they can play to satisfy the most basic needs in the coastal area. Both have opportunities and could use them to encourage regular contacts between all participants.

As reported earlier, the Coastal Peace and Development Committee is a much appreciated initiative by the church to create a forum where possible conflicts can be discussed between concerned parties and controlled before they have a chance to escalate. The DOF, as the line department in the forefront of government action, has concentrated its efforts on the supply of much-needed social services such as off-season benefits and pension and housing schemes through co-operative societies.

The fisherfolk would further appreciate it if the DOF participated and took charge of the regular discussions initiated by the CPDC. The church has taken the lead in the stakeholder approach, but is

perhaps not the ideal mediator between fishing groups since it is part of the society itself. It is very difficult for the church and its adherents to play a neutral mediating role. The DOF is far better equipped to play that role. Besides, DOF staff are more knowledgeable in fisheries and also have the means to enforce actions taken. This move would actually be appreciated by the fisherfolk who, as one of their recommendations shows, would like to see more government action to enforce state laws and local arrangements between stakeholders.

It is encouraging to note that the DOF is keen to respond to the outcomes of the stakeholder consultations. First of all, the DOF is willing to improve the fisheries infrastructure (e.g. landing sites) in Kanniyakumari district. Secondly, the department is a willing to co-ordinate government action to improve access to non-fishing services and infrastructure in coastal areas, especially targeting fishing communities. By doing this it takes on a more integrated approach towards fisheries and fisherfolk, which should be encouraged and serve as an example for other departments.

Traditionally, it is considered "hazardous" for a department to operate outside its mandate. Co-ordination among departments is difficult. However, acknowledging the need for concerted effort, the Secretary of Fisheries and Animal Husbandry and the Department of Fisheries have agreed to initiate such co-ordinated action. The Secretary has offered to call a meeting where all government agencies with a stake in the coastal belt – such as Public Works, Education, Rural Development and the Collector's Office

– will be invited to discuss and plan co-ordinated action on specific problems of the coastal fishing communities.

If these government agencies succeed in taking action toward solving the most important problems of coastal fishing communities, their credibility with fisherfolk will go up. There will be better communication in future between governrment and fisherfolk, and greater interest and more energetic participation by fisherfolk in the stakeholder approach towards fisheries management. With concerted efforts from Central, state and district level agencies, the most urgent problems can be targeted and taken care of.

To assist the meeting of government agencies called by the Secretary of Fisheries and Animal Husbandry, BOBP was requested to undertake a survey in the first half of 1998 to identify the specific needs for basic services and infrastructure in every fishing community in Kanniyakumari district, It was believed that hard data from such a survey about the communities' felt needs concerning water supply, sanitation, health care, educational facilities, electricity, land availability and housing, road access and telephones, would make discussions between various government departments (e.g. Public Works, Education, and Rural Development) more useful , enabling immediate action plans. The action plans would then be presented and discussed during a multi-stakeholdermeeting in Kanniyakumari. Planned activities would follow.

A second survey has been initiated to get a better understanding of the resource conflicts at sea. This survey, which started in January 1998, concerns identification of fishing intensity and interactive patterns of all fishing groups in Kanniyakumari (kattumaram, vallam and boats) to obtain proper indications of what exactly is going on at sea. Accusations about who is at fault, and who fishing here or there, are aplenty; but no one really knows where fishing grounds overlap, and what craft or which gear puts the highest pressure on the resource. The results of this survey will be published separately.

Finally, a few, words about the DOF's initiative and concern over non-fishery issues. Should the DOF take on a leading role to look after fisherfolk needs that are outside their mandate? This may be a bit tricky. But we could argue that since the DOF is the department most directly concerned with fisherfolk and has rapport with the community, it is well-positioned to coordinate action to meet the most important needs of fisherfolk.

Basic needs such as drinking water, sanitation and health care are perhaps more important to the communities than fisheries management per se, on which DOF can play only a facilitating role. Further, better fisherfolk access to services and infrastructure in coastal areas promotes the direct aims of the DOF. Example: Improved access to educational facilities may pull youngsters out of fisheries and reduce fishing effort and thus serve the cause of fisheries management. Better transport facilities might open up coastal areas and bring alternative income opportunities within reach. Thus an activist stance by DOF on non-fisheries issues would seem to be fully justified. Such a service-oriented strategy would improve the department's performance in fulfilling its aims.

SURVEY METHODOLOGY

In January-March 1998 a survey was undertaken as a combined effort of the Coastal Peace and Development Committee, the Department of Fisheries in Tamil Nadu and the Bay of Bengal Programme (FAO-UN). The goal of this survey was to investigate and prioritize the needs of 39 coastal fishing communities in Kanniyakumari district. The survey considered the following areas:

- drinking water
- washing and bathing water
- sanitation
- electricity
- telephones
- schools
- health care
- land availability and housing, and
- road accessibility.

All these needs were selected during the stakeholder consultations.

Reconnaissance trip

To prepare for the basic needs survey, a reconnaissante survey of Kanniyakumari district and its coastal fishing communities was organized during July/August 1997. It included a rapid appraisal of the district's 42 fishing communities. With the assistance of a local driver and a translator, both of them knew the area very well (and had relatives in practically every village) we observed and assessed the area and its people. Since the Coastal Peace and Development Committee had already divided the coastal villages into six more or less uniform administrative zones, we chose these six zones as our

sample frame for the reconnaissance survey. In each of the zones we selected 3 or 4 communities (out of 6 or 7) that showed the largest deviations in community characteristics such as:

- size of community;
- fishing methods;
- type of boats used;
- other economic activities;
- housing;
- general prosperity.

In total, we appraised 20 of the villages, using semi-structured interviews with individuals and groups of fisherfolk, both men and women.

The reconnaissance survey yielded information and insights valuable for the basic needs survey.

Design of questionnaire

To assist the field work for the basic needs survey, we designed a questionnaire that would help the enumerators in each village to organize a group discussion with about 20 community members, men and women, on their most important problems. The questionnaire was made quite elaborate so that we would obtain all the information we wanted.

Training of enumerators

Two relatively well-educated enumerators were selected from each village, with assistance from the CPDC. In January 1998, two one-day training workshops were held, in Nagercoil and Colachel, to help guide enumerators with the field work to follow. A local supervisor was selected to assist the teams with their tasks, before actual field work for the basic needs survey could start.

Field work

During the field work, the survey teams' main objective was to ask groups of respondents to identify and rank their problems. The respondents were not used to this kind of exercise; it was time-consuming. Although all services seemed to be in a parlous state, the ranking forced them to prioritize their problems. This would give service providers such as the government and the church a clear indication of needed action priorities.

By the end of April 1998, all survey teams submitted their filled-in questionnaires to the supervisor who checked the integrity of the results and sent them to BOBP in Chennai. The information was checked against earlier references and processed in a database.

Almost all questionnaires had been filled in properly when we received them. The local supervisor had put in a great deal of effort to generate this response. The veracity of the information also seemed satisfactory. But a number of questions were left unanswered. For example, information was sometimes

not filled in about the exact distance of a village from schools (primary, secondary and higher secondary), primary health centres or hospitals. Such information had to be collected separately later. One reason the enumerators left gaps in such data is that group discussions are not the best way to get it. Group discussions are more suitable for eliciting views and opinions than for obtaining factual data.

Verification of Results

In May 1998 we paid another visit to Kanniyakumari district. First of all, to hold a consultation with the local supervisor; second, to verify data collection; third, to collect some additional information to fill gaps in the filled questionnaires. We visited all 39 coastal fishing communities and double-checked replies to the most important questions. Emphasis was placed on how the respondents prioritized their problems – since this might determine the pattern of government action.

Analysis **and report writing**

Processing and analysis of the data was done at the BOBP office in Chennai, using standard software such as Microsoft Access and Excel. There were some discrepancies in data collection between the January-March 1998 field survey by the enumerators and the May 1998 field visit by BOBP staff. Wherever discrepancies were noticed, another round of verification was done to resolve them.

Why did discrepancies occur? One reason is that the community groups interviewed on the two occasions were not identical. Different people might naturally have differing perceptions of problems and priorities. Another possible reason is that the respondents found,it difficult to rank problems by priority. All the problems confronting them may have seemed equally important. In general, the fisherfolk were very vocal about the problems that needed immediate attention and redressal by the authorities concerned.

SURVEY RESULTS

Introduction

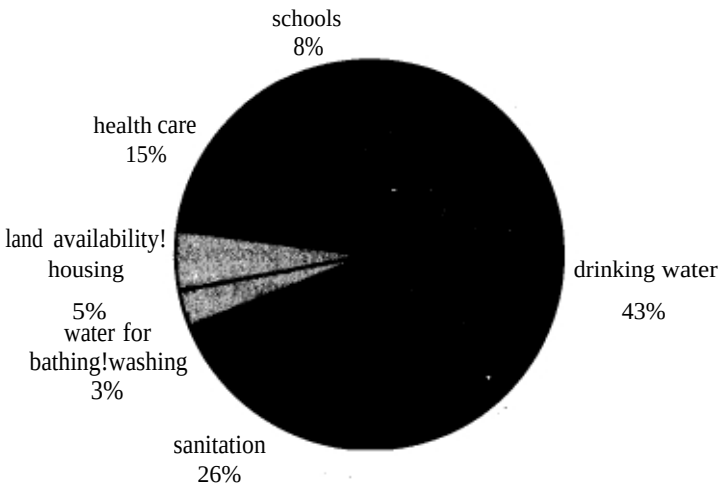
The survey results presented below start with an overview of the most important problems of the selected villages, as seen by the respondents. More detailed information and statistics about each problem area follow **in later** paragraphs. A comprehensive list of survey results, including comments and advice from the respondents, is presented in the Annexes (Tables *1-5).*

During the survey's group discussions, fisherfolk were asked to rank their problems in priority order – from the most important (1) to the least important (9). In our analysis we have confined ourselves to the three most important problems – since fisherfolk usually came up with only two or three problems that they regarded very important. Moreover, they found it difficult to rank and prioritize other problems. Sometimes they threw their hands up in the air, apparently overwhelmed by the number of problems. This makes a valid ranking almost impossible. A complete ranking would be false, because it would suggest a tidy order of perceived needs that does not exist. A short list makes better sense than a "complete" list because action is possible only on the most important needs. It gives us a useful practical list of needed action.

Overview

The pie chart in Figure 1 summarizes the respondents' perception of what was their No. 1 problem area. It shows what percentage of the respondents regarded a particular problem (drinking water, schools, health care, land availability, water for bathing and washing, sanitation) as their No. I problem.. Responses from all 39 coastal fishing communities in Kanniyakumari district were included. For a more elaborate list of 1st, 2nd and 3rd ranked problems please view Table 1 in the Annexes.

Figure 1: The No. 1 problem, as perceived by 39 fishing communities in Kanniyakumari district, Tamil Nadu, India, July 1998



Safe drinking water

Considering the long list of complaints, it is surprising that almost half of the respondents (17 out of 39 communities) agreed on their No. 1 or most urgent problem – access to safe drinking water. If we add those who regarded it as their No. 2 or No.3 problem, the number is a staggering 80% of all surveyed communities.

In the first group of 17 communities that considered safe drinking water their main concern, more than 40% regarded "water for washing and bathing" as their second priority area. There is thus a high degree of unanimity about water being a vital need.

It is natural that demand for water is high in coastal areas that are densely populated and also used for intensive agriculture The intake of large quantities of water causes seawater to enter ground water reservoirs. This salinization process further constrains the intake of drinking water in Kanniyakumari district. Causing still more stress are a number of agricultural activities – such as processing of coir – that chemically pollute surface and ground water sources.

The respondents also complained about the short duration that water was available to them. Often they could tap or pump water only once every two days or for one hour every day.

Erratic and insufficient power supply aggravated the problem even more. Without electricity, people were unable to operate the pumps that carried water to water tanks. Specific requests were made to increase the capacity of the water tanks, dig wells at appropriate places and strengthen the distribution network of pipelines (Table *5A).*

Sanitation

Sanitation facilities are badly needed in coastal areas. The survey results confirm observations by the survey team that sanitation facilities for handling and disposing sewage, solid and liquid waste are insufficient and unsatisfactory. Ten communities or 25% of all villages regarded this service as their prime concern. Specific needs ranged from proper drainage, public and private toilets to garbage collection on a regular basis. Only a few affluent families seemed able to afford a private toilet inside or outside their homes. The majority ofthe fisherfolk said they used the beach, streets or nearby private land as public conveniences.

Respondents complained that bad hygienic conditions their village had spawned diseases. Others complained about untidiness. Almost everyone wanted immediate action to provide them with sanitation facilities such as public and private toilets and arrangements for regular garbage collection by local panchayats.

Overall, sanitation is the second-most important problem perceived by coastal fishing communities. But if they are serious about righting this situation, they ought to assist in collecting garbage, and in cleaning public latrines, etc. With a little financial help and coordination by the village committee, there should be perceptible improvement. This is a clear case of a need for self-help.

Health care facilities

Six communities out of 39 *(15%)* rated health care as their primary concern. Almost half of the 39 communities regarded health care as their 1st, 2nd or 3rd priority (Table 3 in Annexes). Most respondents expressed a strong need for well-staffed government hospitals or primary health centers (PHC) that charge moderate prices and are open 24 hours a day to the public. Most private institutions are perceived as too expensive. Although government PHCs and hospitals are cheaper, they lack qualified staff and are open only a few hours a day.

How far do the communities have to go to access primary health care? The mean distance is 3 km (standard deviation value: almost 3. So most values are between 1 and 6). Ofthe 39 communities, 17 have a PHC within their village. The farthest distance to a PHC is 12 km. This is true of two adjacent communities – Puthenthurai and Kesavanputhen Thurai.

The communities have to travel much farther to reach a full-fledged hospital capable of tackling major problems. The mean distance is 23 km, with a standard deviation (from the mean) of almost 14 km. This means that most values are between 9 and 37. The shortest distance to a hospital is 4 km (Kurumbanai) and the longest is 50 km (Vallavilai and Marthandurai). The main hospitals for specialized help are in Nagercoil. So a community's access to major medical help may depend on how far it is from Nagercoil.

Regular bus services – enabled by a network of wide well-cemented roads – would make a lot of difference to the quality and timeliness of medical access. The authorities should therefore seriously consider improving the road network and the transportation system in coastal areas.

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Land availability and housing

Another major concern of coastal people in Kanniyakumari district is the scarcity of land. The majority of the coastal fishing communities live on a small strip of land, adjacent to the beach, often owned by the church. Pressure on land is mounting because first of all the communities have seen a steep rise in population size and secondly, coastal erosion has caused a substantial loss of land along the coast of Kanniyakumari district.

The two communities (6%) that ranked "land availability and housing" as their top priority need have to cope with an additional problem. A central government mining company is situated in between the communities and processes valuable minerals out of sand, collected from designated local plots of coastal land. These designated mining plots are sealed off from the communities. This further aggravates the scarcity of land and traps the local communities, confining them to a small area. Respondents complained that sometimes three or four families live under one roof - a condition that breeds quarrels and local unrest. Respondents also said that it was very difficult to buy or rent land anywhere in or around their villages. To build new homes, fisherfolk had to buy land. To do that, they were highly dependent on the goodwill of private landowners, the government and church, who owned most of the coastal land.

Government intervention seems necessary to provide fisherfolk communities with a minimum of land.

Schooling

Three communities (8%) ranked schooling as problem area no.1. Five other communities have ranked it among their 2nd and 3rd problems. Respondents complained about the low standard of teaching, especially at primary, secondary and higher secondary schools. They wanted properly staffed and well-equipped schools and well-trained teachers. The respondents did not blame the teachers personally, because they realized that the teachers are poorly paid; even their meagre salaries are not paid regularly.

We asked the communities to tell us how far the schools were from their homes. Table 4 lists these distances. The mean distance of all 39 communities to primary schools turned out to be less than 1 km. In all communities except two, primary schools are located within the village boundaries. A large majority (67%) also had access to middle schools within the village boundaries. The farthest distance a community had to go to reach middle school was in Arokiapuram (5 km). The mean distance to reach middle schools is 1.64 km.

The mean distance to secondary schools is 2.67 km., with a standard deviation of 2.54 km from the mean. This means that the distribution of most values is roughly between 0 and 5 km. The longest distance students have to travel to reach a secondary school is 15 km (Pillaithope). Higher secondary schools are even more scarcely distributed along the coast. The mean distance for students to reach higher secondary schools is 5.28 km. with a standard deviation of 5.06. So, most values are between 0 and 10 km. The longest distance to a higher secondary school is 15 km.

How far are colleges? The mean distance to colleges from the 39 communities was 14.31 km, with a standard deviation of 7.9 around the mean. So most of the values are

distributed between 6.4 and 22 km. Colleges were the closest in Colachel and Thoothoor (less than a kilometer away), and the farthest in Kodimunai (30 km). This needs an explanation since Kodimunai

is quite close to Colachel. Apparently Kodimunai community members preferred to send their children to colleges in Nagercoil.

Most respondents said they had limited access to professional and vocational schooling. The focal point for this type of education is Nagercoil, followed by smaller educational centers in Colachel and Thoothoor. Chennai, Thiruvananthapuram and Bangalore are also seen as focal points for professional (and even collegiate) education outside the district.

Almost half of the respondents were happy with the quality of schooling. The other half complained about the non-commitment of staff, the lack of discipline in school and the dearth of basic facilities to support the teaching of their children. Others complained about the non-availability of roads and bus services to bring schools within easy reach.

Discussions should be initiated between the church, which manages most of the schools, and the government, to work out solutions to improve the quality of schooling in coastal communities.

Washing and bathing water

Only Puthoor, among the selected villages, described the lack of water supply for washing and bathing as its top priority. Puthoor fisherfolk said they had to take a bus to take a bath! It might surprise a few people that water for bathing and washing was perceived to be the main problem, and not drinking water. Actually, drinking water figured immediately after, as problem no. 2. Apparently, the supply of drinking water is so limited that there is no water left for washing and bathing. That they have to spend time and money on bus travel in order to bathe, agitates theses villagers..

Thirteen communities regarded the insufficient supply of water for purposes such as washing and bathing as a top priority problem (Priorities 1 to 3). Many complained about the turbidity and salinity of their water. Often they did not find it suitable for either drinking or washing and bathing.

It is rivers, creeks and streaming canals that the villagers turn to for washing and bathing. The intake of water fluctuates considerably, and depends on the intake of water upstream by agricultural farms, etc. The release of upstream effluent ruins the water quality downstream, especially when only small quantities of water trickle down to the coast. Desilting and cleaning of rivers and keeping saline water out of the bar mouth were cited as possible solutions.

Electricity

Most of the coastal villages in the district have been electrified. Usually, 50 to 90 per cent of the households have access to electricity. All respondents complained about power cuts and low voltage. They were especially critical of how this affected students, who were endered "powerless" during the evening and the night. Most people recommended new and higher-powered transformers as the solution. In addition, seven communities also specifically asked for street lighting (mainly for security reasons). Others claimed that proper maintenance of the existing infrastructure would dramatically improve matters.

Road access

Statistically speaking, road access is one of the less important problems. Only six communities have ranked it as their 1st, 2nd or 3rd priority need. It is clear that basic services such as drinking water and

sanitation are regarded as higher priorities. But improving coastal roads, linking villages with one another and shortening the routes to urban centers would improve the access of fisherfolk to several services, such as health care and education. In fact, improving coastal roads would have a multiplier effect on development.

Better roads would generate a positive effect on fisherfolk incomes. Reduced transportation costs would mean higher margins for producer and collector, wholesaler, distributor and fish vendor. Fisherfolk would even be tempted to sell a part of their produce directly to a wholesaler or fish vendor in the urban market.

Telephone

Telephone services did not rank among the top priorities of the respondents. Most people complained about telephone services but gave it a priority lower than 3. But the fisherfolk were unanimous in requesting access to a public telephone booth with a STD connection.

CONCLUSIONS

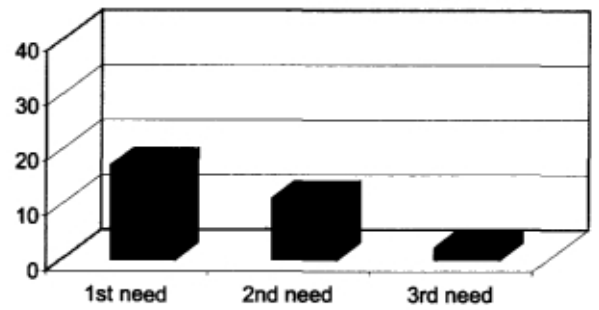
The 39 coastal fishing communities of Kanniyakumari district were asked to identify and rank their priorities concerning needs for basic services, from a list of nine: electricity, health care, land availability and housing, road access, safe drinking water, sanitation, schools, bathing and washing water and telephones. These nine needs had been identified by the fisherfolk themselves during stakeholder consultations in Kanniyakumari district.

In this report we have analyzed the three main problem areas mentioned by every community. In addition group discussions provided us with valuable comments and specific requirements to deal with their problems. This tangible information can directly guide government departments, local panchayats and the Kottar Diocese in their work. Now that the people have listed their priorities, it is up to the service providers of the coastal area to act.

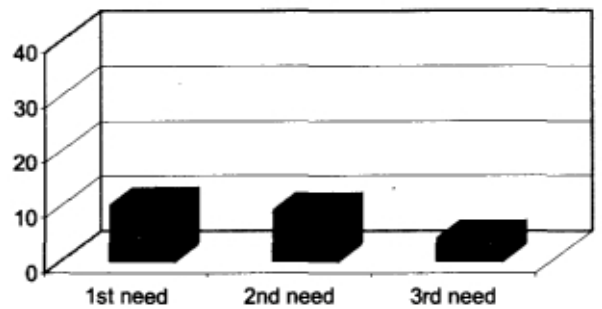
In short, the main problems in the coastal areas relate to drinking water, sanitation and health care. A more comprehensive list with a description of the 3 main problems for every community can be found in Table 3 (Annexes). Further, the communities' comments on their main problems are found in Table 4, A-H (Annexes).

If proposed action by the government and church to solve these problems is to be sustainable, fisherfolk should take part in the solution strategies. It should be possible for some maintenance jobs such as garbage collection to be assisted, organized or facilitated by community members with a minimum of training. We should build community awareness toward self-reliance.

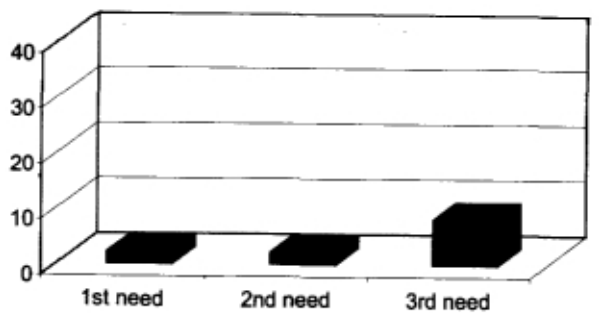
Figure 2: Basic services ranked as 1st, 2nd and 3rd need by 39 coastal fishing communities in Kanniyakumari district, Tamil Nadu, India, July 1998.



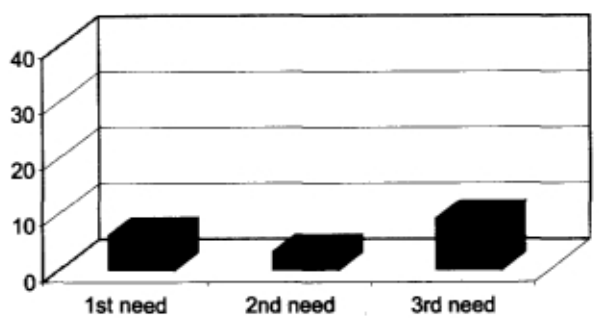
Safe drinking water



Sanitation



Land availability and housing



Health care

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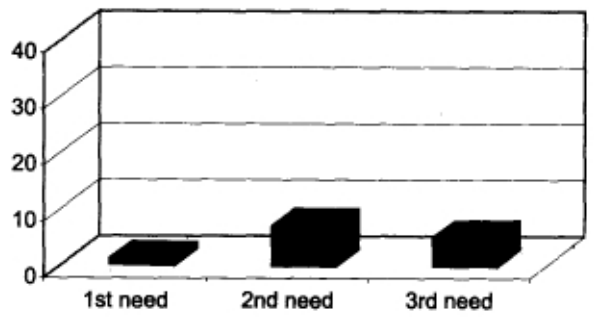
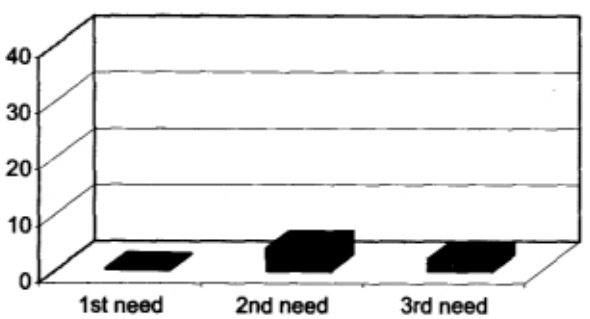
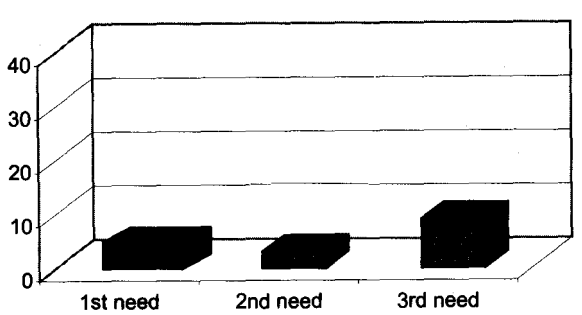
Figure 2 (Continued): Basic services ranked as 1st, 2nd and 3rd need by 39 coastal fishing communities in Kanniyakumari district, Tamil Nadu, India, July 1998.



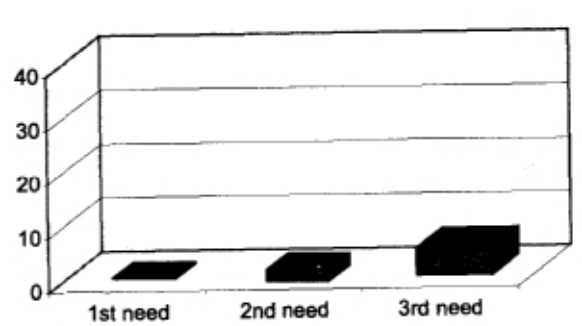
Water for bathing and washing



Electricity



Education



Road access

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Appendix I Survey Results

Table 1: The communities' problems in services and infrastructure, ranked according to priority by fishing communities in Kanniyakumari District, in geographical order (east-west), Tamil Nadu, July 1998.

Village	*Problem 1*	*Problem 2*	*Problem 3*
Arokiapuram	Health care	Schools	Sanitation
Chinnarnuttom	Drinking water	Schools	Sanitation
Kanyakumari	Drinking water	Washing and bathing water	Land availability! housing
Kovalam	Schools	Sanitation	Health care
Kil-Manakudy	Drinking water	Washing and bathing water	Health care
Manakudy	Drinking water	Sanitation	Land availability! housing
Pallam	Drinking water	Washing and bathing water	Sanitation
Puthenthurai	Health care	Drinking water	Land availability! housing
Kesavanputhen Thurai	Drinking water	Health care	Land availability! housing
Pozhikarai	Drinking water	Washing and bathing water	Sanitation
Periakadu	Sanitation	land availability! housing	Schools
Rajakamangalam Thurai	Drinking water	Health care	Land availability! housing
Pillaithope	Schools	Health care	Drinking water
Muttom	Drinking water	Electricity	Road access
James Nagar	Schools	Road access	Health care
Kaddiapattanam	Drinking water	Washing and bathing water	Road access
Chinnavilai	Land availability! housing	Sanitation	
Periavilai	Land availability/ housing	Sanitation	Washing and bathing water

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Village	*Problem 1*	*Problem 2*	*Problem 3*
Puthoor	Washing and bathing water	Drinking water	Electricity
Kottilpadu	Drinking water	Land availability! housing	Schools
Colachel	Sanitation	Drinking water	Washing and bathing water
Simon Colony	Sanitation	Drinking water	Washing and bathing water
Kodimunai	Sanitation	Drinking water	Washing and bathing water
Vaniakudy	Sanitation	Electricity	Schools
Kurumbanai	Sanitation	Drinking water	Road access
Midalam	Sanitation	Drinking water	Health care
Mel Midalam	Sanitation	Drinking water	Health care
Enayam	Drinking water	Sanitation	Land availability! housing
Enayam Puthenthurai	Drinking water	Washing and bathing water	Electricity
Ramanthurai	Drinking water	Sanitation	Health care
Thengapattanan	Drinking water	Washing and bathing water	Road access
Eramanthurai	Health care	Sanitation	Land availability! housing
Poothurai	Health care	Electricity	Housing
Thoothoor	Health care	Drinking water	Washing and bathing water
Chinnathurai	Sanitation	Drinking water	Health care
Eraviputhenthurai	Sanitation	Drinking water	Road access
Vallavillai	Health care	Sanitation	Drinking water
Marthandathurai	Drinking water	Electricity	Health care
Neerodi	Drinking water	Sanitation	Health care

Table 2: The population figures (1986 and 1997) of coastal fishing communities in Kanniyakumari district, Tamil Nadu, India, July 1998

Village	*total population 1986#*	*total population J997**	*% change 86-97*
Arokiapuram	1636	2232	36
Chinnamuttom	1083		
Kanniyakumari	6958	16355	***135***
Kovalam	3016	4250	41
Kil-Manakudy	1617	2453	***52***
Manakudy	3800	6444	70
PaIlam	3099	6700	116
Puthenthurai	1036	1659	60
Kesavanputhen Thurai	1376	1686	23
Pozhikarai	1141	1800	58
Periakadu	728	1336	84
Rajakamangalam Thurai	3473	6081	75
Pillaithope	390	4251	990
Muttom	5338	10807	102
James Nagar	3450		-
Kaddiapattanam	5170	11056	114
Chinnavilai	829	1476	78
Periavilai	1148	1441	26
Puthoor	2061	4613	124
Kottilpadu	2115	2705	28
Colachel	9167	12856	40
Simon Colony	-	-	-
Kodimunai	4260	6020	41
Vaniakudy	3127	7200	130
Kurumbanai	4979	7855	58
Midalam	1249	1136	-9
Mel Midalam	1575	1962	25
Enayam	3180	6659	109
Enayam Puthenthurai	4516	6340	40
Ramanthurai	2805	3800	35

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Village	*total population* 1986#	*% change* 1997*	86-97
Thengapattanan	2112	2044	-3
Eramanthurai	1882	-	-
Poothurai	3582	-	
Thoothoor	3851	-	-
Chinnathurai	3676	-	-
Eraviputhenthurai	2347	-	-
Vallavillai	5554	-	-
Marthandathurai	2709	-	-
Neerodi	4230	-	

Marine Fisheries Census 1986

* Population count, Kottar Diocese, December 1997

Table 3: Frequency tabulation of problems ranked according to importance (1st, 2nd and 3rd) by 39 coastal fishingcommunities in Kanniyakumari District, July 1998.

	Problem no.1			Problem no.2			Problem no.3			Total (1+2+3	
Services	freq-uency	%	Cumu-lative %	freq-uency	%	Cumu-lative %	freq-uency	%	Cumu-ulative %	freq-uency	% of total n=39
1 Drinking water	17	44	44	11	28	28	2	5	5	30	77
2 Sanitation	10	26	69	9	23	51	4	10	15	23	59
3 Health care	6	15	85	3	8	59	9	23	39	18	46
4 Washing and Bathing water	1	3	87	7	18	77	5	13	51	13	33
5 Land Availability and Housing	2	5	92	2	5	82	8	21	72	12	31
6 Schools	3	8	100	2	5	87	3	8	80	8	21
7 Electricity	-	-	-	4	10	97	2	5	85	6	15
8 Road Access	-	-	-	1	3	100	5	13	97	6	15
9 Telephone	-	-	-	-	-	-	-	-	-	-	-
novalue	-	-	-	-	-	-	1	3	100	1	3
sub-totals (n39)	n=39	100	100	39	100	100		101	100		

Explanation (starting first line, reading horizontally): 17 communities or 44 % out of a total of 39 stated that "drinking water" was their most important problem, which needed immediate attention. Another 11 communities (or 28%) said that "drinking water" was their second most important issue, and two more communities said it was their third most important problem. Altogether 30 out of 39 coastal fishing communities (77%) ranked drinking water amongst their three most urgent problems.

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Table 4: The main descriptive statistics of physical access to types of schools by 39 coastal fishing communities in Kanniyakumari District, July 1998.

Variable	*Mean*	*Standard Deviation*	*Minimum*	*Maximum*	*N*
Primary school	1.1	0.4	1	3	39
Middle school	1.6	1.2	1	6	39
Secondary school	2.7	2.5	1	15	39
Higher secondary school	5.3	5.1	1	15	39
College	14.3	7.9	1	30	39

Table 5 A: Comments on drinking water from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on drinking water*
Chinnamuttom	Dig a well near Madhavapuram, transfer through a pipeline to Muttom, store in a tank and distribute water to us. A 50,000 litre water tank has not yet been sanctioned by government.
Kanniyakumari	Areas around taps must be kept clean.
Kil-Manakudy	A pond is our source. Ten houses share a single tap. Water supply available only once or twice a week.
Pallam	Drinking water is supplied every other day and for one hour only. The panchayat's resources are limited. The daily capacity is only 50 to 75 litres.
Kesavanputhen Thurai	The water available is just not sufficient. The panchayat should take action.
Pozhikarai	A new tank was installed recently. Pipelines are needed to distribute water from it.
Rajakamangalam Thurai	The old tank is falling apart. We need a new and bigger one.
Pillaithope	The existing well must be deepened. The water tank serves three villages.
Muttom	Street pumps are needed.
Kaddiapattanam	Build a wall to stop ingress of salt water.
Kodiinunai	The tank's present capacity is 5,000 litres. It serves us only for half an hour a day. We need a tank with a capacity of 1,00,000 litres
Kurumbanai	We have to walk two kilometers every day to fetch and carry drinking water.
Midalam	We need to pump more water from the underground, two or three times a week.

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Mel Midalam	Every house needs bore well. Right now we have to walk far just to lay hands on saline and dirty water, two or three times every week.
Enayam	We need to find a way to filter water.
Puthenthurai (2)	The water and the tank must be clean.
Ramanthurai	A well has to be constructed 5 km north of the village. The village needs a tank of 10,000 litre capacity.
Thengapattanam	The tank capacity has to be increased from 10,000 to 30,000 litres per day.
Chinnathurai	10,000 litres more of water are needed per day *(15* litres per person per day).
Eraviputhenthurai	Pipelines are not working. A new overhead tank should be constructed to serve 7,000 people.
Vallavillai	At present we have to walk 2 km to get drinking water.
Marthandathurai	We use the panchayat pipelines. We need better access to drinking water.
Neerodi	We need an additional supply of 10,000 litres of drinking water.

Table 5 B: Comments on sanitation from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on sanitation*
Arokiapuram	The public toilet does not work, it is in a dirty place.
Chinnamuttom	Proper planning needed on the part of the Public Works department.
Kovalam	Only 350 houses have private toilets.
Manakudy	Fifty five out of 700 houses have self-contained latrines.
Pallam	The panchayat should appoint personnel to collect garbage.
Periavilai	Two hundred houses are without toilets.
Colachel	Sixty per cent of the homes have private toilets. Public toilets are dirty.
Simon Colony	Only 5% of the homes here have toilets. Even women have to squat on the beach.
Kodimunai	Only 100 houses (7%) have private toilets.
Vaniakudy	Only 5% of the houses have private toilets.
Kurumbanai	Half the houses here have private toilets.
Ramanthurai	Only a quarter out of the 520 houses have private toilets.
Neerodi	A sweeper is needed to clear garbage. Only 10 out of 740 houses have individual latrines.

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Table 5 C: Comments on health care from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on health care*
Arokiapuram	The primary health care center (PHC) in the village is closed. Please re-open it and make it run.
Kovalam	Doctors and nurses must be available round the clock - any time of the day or night. A service we badly need.
Kil-Manakudy	Even a PHC that opens twice a week would be a beginning. We do not have one.
Puthenthurai	We have to go to four different places at present for health care.
Rajakamangalam Thurai	Doctors do not like living in coastal areas. They are available here only about two hours a day. They must be available 24 hours a day. Ward facilities and X-ray scan facilities also needed.
Pillaithope	A PHC is badly needed in the village.
James Nagar	**We need regular medical check-ups.**
Eramanthurai	The people here go to the PHC at Thoothoor.
Poothurai	The PHC in Thoothoor is open only from 8a.m. till 10 a.m.
Thoothoor	The government hospital (open every day from 8 a.m. to 10 a.m.) lacks facilities. In 1983, the government acquired three acres of land to expand the hospital. No expansion yet.
Chinnathurai	Poor medical facilities.
Vallavillai	Please start a government hospital in Vallavallai.
Marthandathurai	The private hospital is too expensive. Village willing to provide land if government builds a PHC.
Neerodi	Upgrade the PHC, it is **too** small, more facilities needed.

Table 5 D: Comments on washing and bathing water from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on washing and bathing water*
Kanniyakumari	Appoint inspectors to monitor water supply.
Pallam	Make water available (Right now available only one hour per day – either for drinking or for washing and bathing or any other use).
Pozhikarai	Water runs through others' properties. If quarrels break out, no water intake possible.
Kaddiapattanam	Water sources are river, well and tap. Wall is needed in river to keep saline water out.
Periavilai	Our only sources. are two wells in the village and a poo1 outside the village.
Colachel	Wall/shutter is needed in barmouth to prevent saline water ingress in summer.
Simon Colony	Wells and tank are the water resources. Problems crop up during summer, water becomes saline.
Kodimunai	The river, the water source, is far away from the village.
Enayam Puthenthurai	Water supply should be increased, should be available a minimum of five hours per day.
Thengapattanam	Wells have been deepened, new wells constructed.

Table 5 E: Comments on land availability and housing from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on land availability and housing*
Kanniyakumari	A thousand houses are needed for the very poor, the "downtrodden".
Manakudy	Private land needs to be acquired from adjacent villages. Half the people do not have houses.
Puthenthurai	Coconut forest must be bought from private land owner near our village. We just do not have enough land.
Kesavanputhen Thurai	Price of land has gone up. We need land for houses, also for a post office, bank, ration shop (now rented), etc.
Rajakamangalam Thurai	The homeless can occupy adjacent land (Puram Pokku) already in use. Give us ownership rights.
Chinnavilai	IRE exploits coastal lands in and near village. IRE promised to return used land (via government). Here 60% of the people do not own a house.
Periavilai	We need *3.5* acres to build houses (more than 70 families without houses), and money to build them. We also need a protective wall against erosion.
Kottilpadu	Acquire private land.
Enayam	Protection from erosion is an acute need. The combination of land erosion and rising prices for privately owned land hits us badly.
Eramanthurai	Land is needed not only for housing but also for a school, a medical center, a post office.

Table 5 F: Comments on schools from coastal fishing communities in Kanniyakumari district **who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.**

Village	*Comments on schools*
Arokiapuram	Vocational education: computer courses in Kanniyakumari are very few, we need more.
Chinnamuttom	Every four villages should form a cluster with basic school facilities.
Kovalam	We have worked hard to upgrade our school upto 8th standard making use of self-fiance schemes. Parents need some kind of incentive to send kids to school.
James Nagar	Please give us a school. Any school will do.
Puthoor	The quality of education must be improved. Good transportation is a must to bring it about.
Kottilpadu	The quality of education is unsatisfactory.

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Table 5 G: Comments on electricity from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on electricity*
Muttom	No streetlights, no maintenance.
Puthoor	Frequent power cuts, voltage is low.
Vaniakudy	Street light do not work. No power at night. Students can't sudy.
Enayam Puthenthurai	Frequent power cuts. Low voltage.
Poothurai	Frequent power cuts. Low voltage.
Marthandathurai	Frequent power cuts. **Low voltage.**

Table 5 H: Comments on road access from coastal fishing communities in Kanniyakumari district who ranked this amongst their 1st, 2nd and 3rd most important problems, listed in geographical order (east-west), July 1998.

Village	*Comments on road access*
James Nagar	No roads to neighbouring villages Muttom and Kadiapattinam.
Kaddiapattanam	Need for road link with Chinnavilai.
Kurumbanai	Linkage road to Midalam needed. It was started but suspended.
Midalam	Linkage road needed from Midalam through Aranchi and Kolachel to Nagercoil.
Thengapattanan	Road link with town panchayat damaged due to erosion. Road needs metalling and tar.
Eraviputhenthurai	Coastal road sanctioned by government, but our village forgotten.

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printed by Kasturi Graphics, Chennai.

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