

***STATUS AND NEEDS OF
FISHERFOLK :
Vaavu, Meemu and Faafu Atolls,
MALDIVES***



A study undertaken by
PROJECTS AND EXTENSION SECTION
MINISTRY OF FISHERIES AND AGRICULTURE
REPUBLIC OF MALDIVES

BAY OF BENGAL PROGRAMME
Small-Scale Fisherfolk Communities

BOBP/WP/76
GCP/RAS/ 11 8/MUL

A VIEW FROM THE BEACH

- Understanding the status and needs of fisherfolk
in the Meemu, Vaavu and Faafu Atolls
of the Republic of Maldives

By

The Extension and Projects Section
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the Republic of Maldives

BAY OF BENGAL PROGRAMME
Madras, India
1991

This paper summarizes and analyzes the information collected from fisherfolk communities in the Meemu, Vaavu and Faafu Atolls of the Maldives, by the staff of the Extension and Projects Section of the Ministry of Fisheries and Agriculture (MOFA), Republic of Maldives. The information was gathered as part of an internal exercise of the Extension and Projects Section to help it get acquainted with these atolls, which were the selected target area of a BOBP-sponsored subproject to assist MOFA to develop a fisheries extension service, to build rapport with the fisherfolk and to get a working understanding of their socio-economic status, the dynamics of their communities and their needs and concerns. The document is intended for the day-to-day use of the extension staff in generating objectives, prioritizing actions and in guiding and facilitating their work, It is not a benchmark study representative of the situation prevailing in the country as a whole.

The information was collected in a series of participatory rapid appraisals and community focus group discussions undertaken by Aminath Zaheera, Aminath Lathefa, Abdulla Jaufar, Adam Maniku and Shereen Nahida of the Extension and Projects Section and Ahmed Naseer of the Worldview International Foundation, an NGO, under the direction of N T Hasen Didi, Director, Extension and Projects Section, during the latter half of 1989, and analyzed by them with support from the **BOBP**.

The fisheries extension services project (EXT/FES/MDV), and this paper which evolved out of its efforts, have been sponsored by BOBP's "Small-Scale Fisherfolk Communities in the Bay of Bengal" (GCP/RAS/118/MUL), a project jointly funded by SIDA (Swedish International Development Authority) and DANIDA (Danish International Development Agency) and executed by FAO (Food and Agriculture Organization of the United Nations).

The BOBP is a multi-agency regional fisheries programme which covers seven countries around the Bay of Bengal – Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka and Thailand. The Programme plays a catalytic and consultative role: it develops, demonstrates and promotes new techniques, technologies or ideas to help improve the conditions of small-scale fisherfolk communities in member-countries.

This document is a working paper and has not been cleared by the governments concerned or the FAO.

June 1991

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A family travels in a *dhoni* from one island to another

I. *BA CKGROLTNI*

The Republic of Maldives is an archipelago of 1161 coral islands clustered into 20 atolls which lie in the Arabian Sea, west of the southern Indian peninsula and Sri Lanka. Located approximately between 7°N and 1°S latitude, these islands include 200 inhabited ones which are home to approximately 214,000 people who, historically, and because of their unique geography, depend on fishing for a livelihood. In terms of employment generated, exports, foreign exchange earned and the amount of protein for the national diet, fisheries is the dominant activity of the islands.

In 1988 the Government of the Republic of Maldives requested the Bay of Bengal Programme (BOBP) to assist its Ministry of Fisheries and Agriculture (MOFA) in developing a fisheries extension service to help the fisherfolk of the country. The project began with a pilot exercise focusing on three atolls with 19 inhabited islands, just south of Male, the capital island. It is envisaged that the lessons learnt from the pilot activity in Meemu, Vaavu and Faafu Atolls will help the Ministry of Fisheries and Agriculture in the event it considers expanding the fisheries extension services to the entire nation.

The first task of the Extension (and Projects) Section of NIOFA was to familiarize itself with the target area in order to better understand the fisheries and fisherfolk, then to appraise the needs and concerns of the fisherfolk in order to be able to evolve an extension service responsive to their needs. This report summarizes and analyzes the information collected by the Extension Section during the latter half of 1989.

2. *OBJECTIVES*

The study was intended as an internal exercise of the Extension Section to help it get acquainted with the target population of fisherfolk communities, to build rapport with them, and to get a working understanding of the socio-economic status of fisherfolk, the dynamics of their communities and their needs and concerns. The intention was to involve fisherfolk in the study and to look at their needs and concerns through their eyes – a view from the beach, as it were. It was, and is, hoped that the information generated would set down the objectives of the extension unit, prioritize its actions and guide and facilitate it in its day-to-day work.

3. *METHODOLOGY*

Information was collected for the study using four approaches

- a. An island resource questionnaire was filled for each of the 19 inhabited islands in the study area using island chiefs (and their office bearers) as respondents. The questionnaire elicited each island chief's perception of needs and concerns in a non-prioritized manner.
- b. A household questionnaire was filled for approximately 17 per cent of the households (192 out of a total of 1138 households). This was done by randomly selecting the households from island registers of households. The questionnaire took 45 minutes to an hour, on an average, to fill. It included questions eliciting needs and concerns by priority.
- c. Focus group discussions were held on each island with groups of active fishermen and women from fishing communities to get information pertaining to fishing and issues relating to women. The discussions were based on check-lists that covered the questionnaire material in an unstructured manner.
- d. Personal observations of the extension staff.

The report, in draft form, has been discussed in detail at an internal meeting of the Directors of MOFA and at an inter-departmental meeting called in August 1990 by MOFA and which included representatives from the Ministry of Planning and Environment, the State Trading Organization (FPID), the Ministry of Fisheries and Agriculture, the Ministry of Atolls Administration and the Ministry of Finance.

4. LIMITATIONS OF THE STUDY

Given the objectives, the study did not set out, either through its design or in its implementation, to produce a rigorous, academic outpouring of vast amounts of statistically relevant data, and it should be read as such. While 15-25 per cent of the households, randomly selected, were interviewed, using detailed, structured questionnaires, the objective of getting acquainted, building rapport and getting broader qualitative understanding was never lost sight of. The intention was to treat the study as the first of an on-going process of data- and information-generation.

In reading the report, certain limitations should be kept in mind. They are

- The data collection was undertaken over a relatively short period of time and, therefore, had to depend on memory recall to build a picture of a very seasonal occupation and life.
- Averages, particularly of demographic data, need to be read with caution, given the relatively small size of the universe (of the island or even the atoll) and despite sample sizes being 15-25 per cent.
- In a large proportion of the data collection at household level, the respondents were women and the less-than-totally-occupied elderly members of the family. This may have skewed the information, but focus group discussions with working fisherfolk and with women did, to a certain extent, balance the views.
- The study at various points attempted to get respondents to prioritize their perceptions, needs and concerns. While efforts were made to verify these, they should be read with caution as the community found it conceptually difficult to rank their views.
- Data regarding earnings from various economic enterprises, savings and credit practices was extremely difficult to extract, for obvious reasons. This data is less reliable than the relative estimates given by households of their positions *vis-a-vis* others in the community.
- The findings reflect the situation in Meemu, Vaavu and Faafu atolls only and should not be seen as being representative of the Republic of Maldives. It must be noted that these atolls were not selected as being representative, but because they were accessible and convenient test sites for the pilot project.

5. THE AREA OF STUDY

The area studied comprised all the 19 inhabited islands of the Meemu, Vaavu and Faafu Atolls of the Republic of Maldives. The Appendices include four maps that identify the target atolls and the islands studied in each of them.

6. SOCIAL AND ECONOMIC CHARACTERISTICS OF FISHERFOLK

6.1 Demographic trends

Given the relatively small absolute size of the population of the Maldives and the fact that only 200 of over 1000 islands are inhabited, it is not surprising that population stress is not much talked of as a concern. In fact, not one respondent, whether a householder or an official, raised population size or stress as a problem. However, the data tells a completely different story.

Table I shows the population, in 1977, 1985 and late 1989, of the islands under study. The **growth** in population due to natural causes and due to in- and out-migration shifts are considerable in the case of several islands. To take an extreme case, Nilandhoo Island in Faafu Atoll almost doubled its population between 1985 and 1989. More significant is the fact that the population under the age of 15, expressed as a percentage of total population, varies between 38.09 and 57.31 per cent, with 49.97 per cent as the average. These figures, indicating the crude birth rate per thousand per year, are staggering.

The average **household size**, 7 or 8 persons (7.7 - Table II), was also high. In discussions with women, a large family norm was repeatedly mentioned as an aspiration. However, a minority of women, mainly young mothers, did express concern about their ability to give children proper care and upbringing in large families.

In identifying needs, concerns and problems and in prioritizing them, the community repeatedly drew attention to shortages of firewood, poor and inadequate supply of drinking water, inadequate health-care and schooling facilities, problems with the disposal of sewage – particularly solid waste – and increased weed growth in lagoons (probably because of an increase in nutrients due to the use of beaches as toilets). All these concerns, which the community ranked high, are related to, and often the consequence of, population stress. Yet, in the perception of the community, the conceptual link between cause and effect does not seem to have taken place. This aspect is dealt with later, in the section on problem analysis.

6.2 *Occupational patterns*

When trying to understand occupational patterns in the islands, it must be remembered that islanders rarely, if ever, practise one occupation alone. People take up another occupation, often simultaneously, depending on season, resource availability, market prices and skill availability. In determining occupations, the survey attempted to pin down occupations which contributed the majority of earnings over a period of time. It will be seen in Table II that the most important occupation in Meemu Atoll is fishing, with 35 per cent of respondents depending on it. Coir rope- and cadjan-making (coconut leaf weaving) are in second place (15 per cent) and the civil service is third (12.5 per cent). The situation in Vaavu Atoll is quite different. With two tourist island resorts located in Vaavu Atoll, working in tourist-related occupations is an important alternative and at 21 per cent the population dependent on tourism is just a little less than those fishing or in the civil service (23 per cent each). The situation in Faafu Atoll is even more different. Faafu, for various reasons, is hardly a fishing atoll, only 7 per cent of households being involved with fishing. The community in Faafu seems to depend on other natural resources, with coral- and sand-mining, for use in construction, leading the primary occupations and accounting for 28 per cent of the households. Coir rope- and cadjan-making are a close second (25 per cent). Only 10 per cent of the households on Faafu earn their livelihood from the civil service.

It must be pointed out that the occupations can be broadly classified into those that depend on natural resources (like fishing, coir rope-making, cadjan-making, agriculture, sea cucumber collection, sea shell collection, turtle hunting and coral- and sand-mining), those that are service occupations in their islands (like the civil service, trading, and sewing) and those that are service occupations that tend to draw people away from their islands (like working in Male, working in tourism-related activities and working on ships and fishing vessels as crew). This classification becomes important because entry into different occupations, and shifts between occupations, results in the participants moving away or staying. And this has significance to the community (in terms of repercussions both positive and negative).

The **average number of economically active** persons in each household (rounded off) is two males and one female. The lower involvement of women in the work force is deceptive, since the involvement of women in rope-making, cadjan-weaving and shell-collecting is quite high. Usually this is done for personal and household economic benefit. However, they are, quite often, hindered in these activities by the lack of raw materials and the growth of weeds in the lagoons.

A small percentage of the collective effort by women's groups is contributed to community work (such as building or maintaining the mosque) or public charities. This is usually done by working as a group once a month, or less, depending on the women committee's decision.

Whether this negligible community effort is because they are used to, as a society, working for collective benefit rather than personal benefit or whether their lack of interest is because they will not be able to benefit personally will determine the participation of women in activities which could supplement household earnings.

Table III describes the employment status in the atolls. With fishing, the civil service and other service sectors as primary occupations, it follows that a majority of people see themselves as employees. The next highest category consider themselves self-employed. Only a minority perceive themselves as employers or as working in their family's occupation. A very small percentage are in the armed forces and are classified as such to emphasize the difference with the other classifications.

6.3 *Economic status of fisherfolk*

Socio-economic surveys, particularly those related to development activities, often attempt to gauge the economic wellbeing of households and individuals, partly to identify those in need and partly to set a benchmark upon which development activities could build. In a society like the Maldives, given the remote, small, often self-contained communities, and the sense of privacy that such conditions nurture, any direct indicators of income and wealth are extremely difficult to extract, particularly when surveys are conducted by government officers. Therefore, the study attempted the use of other indicators that would enable an idea to be formed of the economic wellbeing of the fisherfolk households.

Three approaches were tried

1. By gathering information on the asset holdings of a household. These are indicators of "wealth", of participation in economic activities, and of buying power.
2. By asking households to rank themselves in terms of economic wellbeing, *vis-a-vis* the rest of their community. This is a subjective indicator, but in a small community, with few, if any, secrets, the only intervening factor would be the ego/humility of the respondents in ranking themselves. However, when aggregated, assuming a Gaussian distribution of egos and humility, the figures should give a reasonable indicator of how the community classifies itself into several strata of economic wellbeing.
3. By asking the interviewers to observe the standard of living of the household, more to modify the first two indicators than to serve as an indicator by itself.

Take Table IV; every household lives in its own home which, even considering the householder's role in building it, involves investment in materials, some of which has to be brought in from Male, and in labour. The ownership of fishing craft reflects the importance of fishing in all the atolls, particularly Meemu. Faafu is a close second, but its boats are primarily for transporting coral and sand rather than for fishing. The ownership of a *dhoni*, usually a mechanized one, is a clear indicator of economic wellbeing, because the investment level is high and it provides a clear income, either from fishing or transport. The ownership of generators, generally to supply electricity to a group of households for a fee, but occasionally for personal and economic use, is another indicator of wellbeing as it involves both investment and earning capacity. Other assets, except perhaps the TV/video, are useful only in a cumulative sense of indicating wellbeing but not individually, being quite commonly owned.

Looking at just the sample, it can be assumed that the majority of the community are of average to well-off means (in a relative sense), with a small minority who can be classed as very well-off and a similar minority who can be classed as having below average, or well-below average, means. The community's perceptions of its relative wellbeing in Table V seem to support the assumptions that can be drawn from the asset holdings.

Fisherfolk communities in the islands of the Republic of Maldives, while poor when looked at in international development terms, are in a relatively good situation when compared with their fellow-fisherfolk in South Asia. They are comfortably housed in reasonably permanent structures, are well-clothed and have ample access to food rich in protein (fish) and carbohydrates, though, due to vegetable shortages, they are prone to vitamin deficiencies. Incomes from fishing, agriculture and trade are increasingly supplemented by incomes being repatriated to the community by its members working in tourist resorts, in Male and on ships, and these seem to meet the needs of the community though not all their aspirations.

6.4 Occupational shifts

The relative economic wellbeing of the fisherfolk community which emerges from the analysis in the previous section may give the impression that all is well, but this is not entirely true. One set of questions asked of the households tried to discover the shifts in main occupation in the recent past, with 'recent' being defined roughly as the last five years. The single most important shift in all three atolls was away from fishing and processing of fish: this was a significant 10 per cent of the economically active population in the sample considered in Meemu, 16 per cent in Vaavu and 14 per cent in Faafu (Table VI). This takes on even more significance when the shift away from fishing is considered as a percentage of the total occupation shifts; then, close to half of all occupation shifts in the three atolls is away from fishing.

The data does not clarify where the shift was to, but some options were indicated during the focus discussions with fisherfolk. In Faafu, the shift was to turtle hunting and to the mining of coral and sand; in Vaavu, to tourist resort employment; and, in Meemu, to the civil service. In addition, in all three atolls, there was a shift from fishing into the civil service, to work in Male and to working on ships. This tendency to shift to jobs that take the workers away from the islands was verified by the women, who mentioned that incomes repatriated to the households from outside the islands had increased in the past few years and was a sizeable proportion of total incomes earned.

The reasons for occupation shift (Table VII) rank the need for increased earnings as the most important factor. This again was reinforced by the findings in the focus group discussions, during which fisherfolk explained that, with prices stagnating for fresh and processed fish, and with fuel costs increasing, the lucrative wages being offered by the tourism and shipping industries were attractive, particularly when it appears that these are "easy" work compared to fishing. The fisheries industry was, thus, losing its youth to these industries and the fishing population left behind is, on the average, older. The MOFA statistics confirm this trend.

Table VIII, which looks at how people felt they would utilize additional incomes, again reveals that investment in income generation activities is well behind other options, such as repairs/improvements to houses, education of children and saving. In other words, given the situation and the perceptions of fisherfolk, fishing (the main income generation activity) has become something that is obviously declining and is not worth investing in, perhaps even worth moving away from. This is a serious situation, given the significance of fish to the economy of the Maldives.

7. PROBLEMS, NEEDS AND CONCERNS OFFISHERFOLK COMMUNITIES

The primary purpose of this study was to help the newly formed extension unit of MOFA design a programme that would address the needs and concerns of fisherfolk. The needs and concerns were elicited in various ways and reflected the perceptions of the various respondents. The methods used for eliciting this information were as follows

- a. Household questionnaires were used in selected households. The respondents were asked to list their needs, concerns and problems as they saw them and to prioritize them in their order of importance. A large proportion of the respondents were the women of the households and this skewed the perception to a certain extent – for example, away from fisheries – and this needs to be kept in mind when interpreting the information in Tables IX - XII.
- b. Focus groups of active fishermen and women were organized in every island to get their particular perceptions and views. This was to overcome any problems arising of identification of needs and concerns in the household questionnaires. The information elicited from the group discussions was then used to supplement the information in Tables IX - XII. **More** importantly, the focus groups provided an opportunity to analyze the problems in terms of their causes and linkages. These clusters of inter-linked problems and issues are graphically described in Figures 1-V and described in the sections that follow.
- c. The island chiefs and their staffs, who are primarily responsible for governance and all developmental activities, were separately questioned in an island resources questionnaire to

get their perceptions of the problems and concerns of their islands. These are covered in Tables XIII - XV. A point to note is that these were not prioritized.

7.1 *Community perceptions vs. Island Chief's perceptions*

That there is a difference in perceptions between the community and its chief and his staff is not surprising. Individual households who live through the problems and concerns can be expected to be more aware and concerned about the impact of the problems on their lives. Island chiefs, on the other hand, perceive the situation not only from their own viewpoint of being the head of administration and development, but also from the viewpoint of being recipients of complaints from the community. A comparison of Tables IX, X and XI with Tables XIII, XIV and XV shows, even at a glance, variations in concentrations. For example, Concerns 13-18, dealing with infrastructural facilities such as lodging for visitors, schools, teachers, electric supply, reef openings and jetties, seem of particular concern to island chiefs and less so to the community. On the other hand, community concerns are seen focused on Concerns 7-II, dealing with health facilities, health workers, sewage disposal and infestation by bats/rats/crows, on shortages of land for households (Concern 22), and, strongly, on firewood shortages (Concern 27).

For extension workers who have to figure out ways and means of answering the needs of the people, and to do this with the cooperation of, and often through, the island chief's office, there is a need to understand the perceptions of the two and their differing emphasis in order to develop a satisfactory programme. It also means that, to facilitate programming, the island chiefs will have to be persuaded of the importance of the community's perceptions and priorities.

7.2 *The crisis in the fishery*

The problems, causal linkages and impacts are diagrammatically presented in Figure I. A typical fishing day in the Maldives begins with the *dhonis* setting out to capture bait fish. They then go in search of schools of fish, weighed down with live bait in flooded boats. Fishing is often done with several boats working a school together, using pole-and-line methods. Fishing usually ceases by noon, the hour dictated by the need to reach collection boats. All boats proceed to the nearest collection vessel, where they queue up, sell their fish at fixed prices and purchase (at a subsidized rate) fuel for the next day's fishing. The boats then return to the island with their unsold fish and this is sold locally for consumption or converted into salt dried or smoked 'Maldivian' fish.

There seems to be no problem with either the availability of fish or the capture methods. The problems begin with having to cease fishing early in order to reach the collection vessel in time. Shortages of collection vessels result in time and fuel being spent on reaching the few (and often distant) collection points and then having to wait in line to sell the fish. The waiting time can last for several hours. In the meantime, the fish lie on the deck, without ice, exposed to the sun.

Limitations in capacity prevent collection vessels from buying the entire catch, something the fisherfolk would prefer (as they get better prices for fresh fish than for processed fish). Because of this, and the long wait, it is not uncommon for some fisherfolk to reach their islands only after dark and then they have to get to work on cutting, cleaning and processing the unsold catch. Often, the quality of this fish is so poor by the time they reach home that it is not worth their while to process it; instead, they have to dump it overboard, several fisherfolk complain.

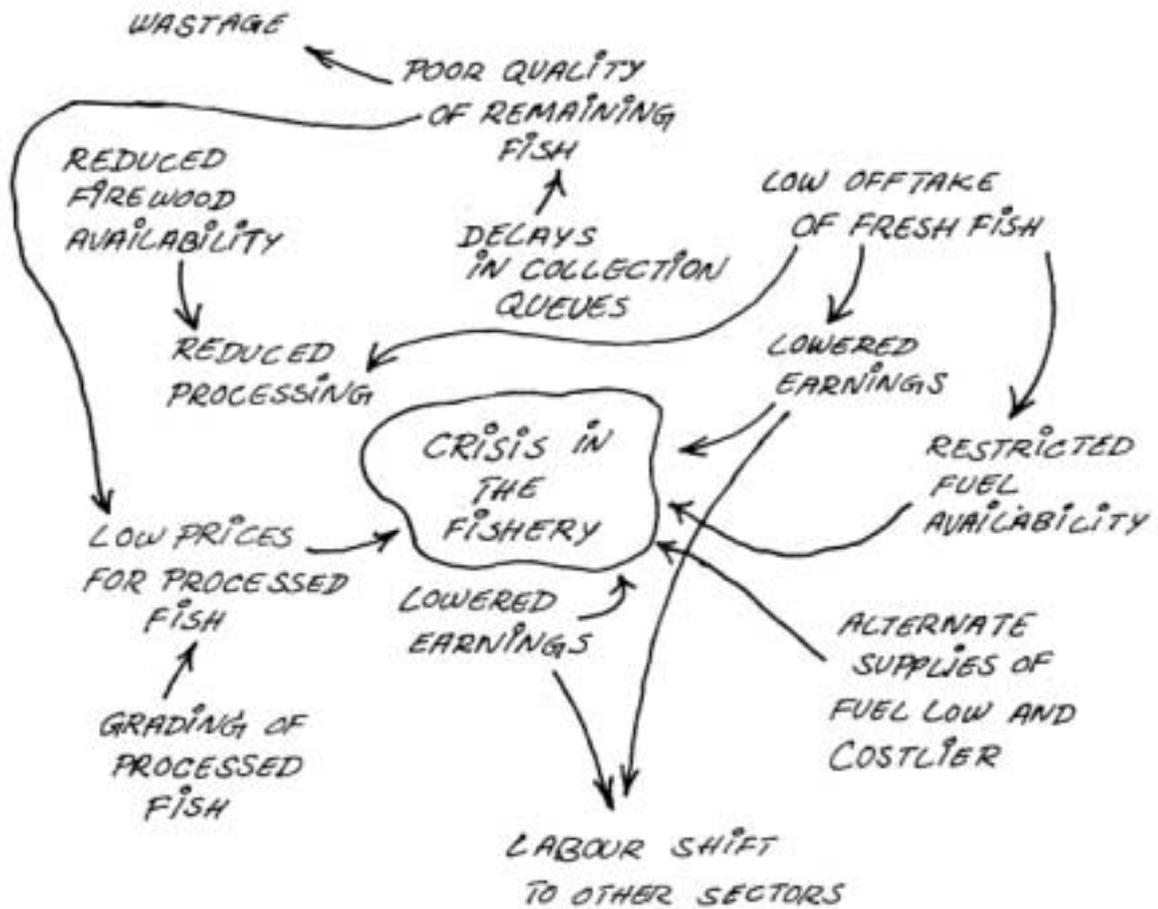
Even if the quality permitted processing, firewood shortages make the production of 'Maldivian' fish expensive and, often, impossible. The option is to salt dry the fish. Fisherfolk complain that their salt dried fish, when sold to the STO, often gets graded at a lower level (due to quality?) and, therefore, makes their earnings lower.

Thus, the earnings of fisherfolk are being affected by

- low offtake of fresh fish,
- wastage of fish due to spoilage caused by delays in the collection process,

Figure 1

NEEDS APPRAISAL IN MEEMU, VAAVU AND FAAFU ATOLLS
PROBLEMS, CAUSAL LINKAGES AND IMPACTS



- increased cost of wood in processing the unsold fish, and
- low prices for processed fish due to grading problems.

Fuel is also often not available, except at the collection vessels, and, if available, is sold at a premium. The net result is that while the fishing is good, the earnings are decreasing, bringing the economies of fishing into question.

Fisherfolk feel that until these problems relating to fuel wood, fresh fish collection and processed fish prices are resolved there is really no point in extension services talking about technical inputs to 'improve' the fishing. They also feel that the younger fisherfolk, given the situation, are increasingly moving away from fishing and into more lucrative (and easier) jobs in tourist resorts and on ships.

7.3 *The energy crisis*

The energy crisis for the community in the islands primarily translates into a shortage of wood fuel. Shortages and increasing costs of fuel oil are also becoming relatively important concerns, particularly affecting fishing and the generation of electricity for domestic lighting and other uses.

The diagrammatic presentation in Figure II focuses only on the wood fuel crisis, because 14 of the 19 islands rated shortages of firewood as a concern and as many as 12 of them gave it a priority among the top three of their concerns. On the demand side, the need for wood fuel is increasing, partly due to an increased population requiring more fuel for domestic cooking, and partly due to poor offtake of fresh fish, resulting in more fish being processed into 'Maldivian' fish. Aggravating the problem further is the low efficiency of the stoves used, often just three stones or a metal tripod. The slightly more efficient traditional stove, made of sand and coral cemented with woodash, is, for reasons not clearly specified, fast going out of use.

On the supply side, the situation is grim. In islands with large populations, there is a lack of space for growing trees. The nearby uninhabited islands are often not accessible as they are leased out to individuals. The result is that the community is moving from a free gathering and barter economy of wood fuel to a cash economy where it is purchasing wood, collected and brought in from uninhabited islands by contractors. The situation is so serious that people have been using fuel oil and even electricity (noticed in one case) in the processing of 'Maldivian fish', an extremely wasteful use of costly fuel oil.

The promotion of fast growing fuel trees on uninhabited islands with easier access could be one solution, but it would have to be accompanied with more efficient wood stoves. This second aspect needs thinking over, as most of the wood stoves currently in use in the developing world are of clay, which is not available in the coral islands of the Maldives. Use of cement and metal, both of which are imported, would dramatically raise costs.

7.4 *Inter-sector labour shifts and emigration*

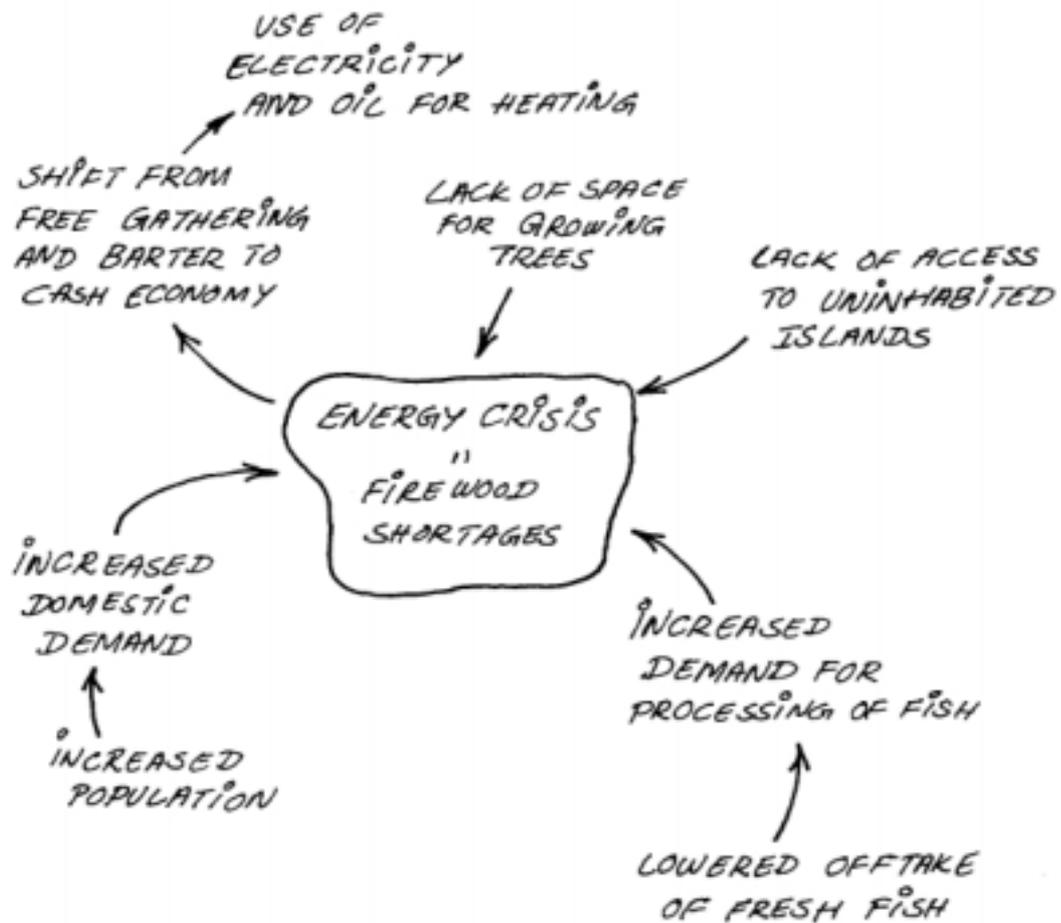
In an earlier section, the data showed that there was evidence of a high degree of occupation shifts in recent years in the islands studied, and that almost half these shifts were away from fishing. Despite this, fishing still continues to be the dominant occupation. Figure III (p 11) attempts to link the causes for this shift and its impact on their communities, as described by fisherfolk.

On the one hand, the earnings from fishing are reducing, partly due to low offtake of fresh fish and partly due to stagnant prices (which are also relatively low) of fresh and processed fish. This fact, combined with increasing prices for fuel, craft and gear, may act as the 'push', as it were, which moves a person away from fishing, or, at least, reduces the hold that fishing has on a traditional fishing community.

On the other hand, there are more lucrative and, in physical work terms, easier occupations becoming available, such as work in tourist resorts or in Male and on ships as crew. This could be the 'pull' that takes people away from fishing.

Figure II

NEEDS APPRAISAL IN MEEMU, VAAVU AND FAAFU ATOLLS
PROBLEMS, CAUSAL LINKAGES AND IMPACTS



At first sight there are some positive aspects, such as the increased incomes of households whose members have 'migrated' to other occupations (and out of their islands). And communities did mention increases in repatriated incomes. But these same communities, surprisingly, complained about the higher income because they had difficulty in disposing of it on the islands or of allowing it to accrue interest through savings. It was also observed, as mentioned earlier, that the fisherfolk preferred to invest in building homes and upgrading them, as well as in the education of their children, rather than in income generating activities like fishing. The increased income, therefore, does not seem to aid the local economy nor does it, in any positive sense, increase the quality of life.

Another concern mentioned by the community in connection with emigration was the loss to the community of skilled young men, since it was mainly they who had shifted occupations. Communities found that several of their needs were difficult to address with the skills that remained. At the most basic level, there was no pole-and-line fishing possible in some islands, as the younger fisherfolk had all left. This left the community without their staple, tuna. In many communities, the elders, the women and the children could only get as far as the reefs and they were therefore eating reef fish in spite of their obvious preference for tuna. To a people to whom tuna has been a lifelong habit, the switch to reef fish has been an experience only little short of the traumatic and is indicative of how much emigration is affecting their lifestyle.

A more indirect concern, and a sensitive one, was referred to particularly by the womenfolk. Young folk living away from home, in new (and more cosmopolitan) surroundings, tended to behave in an unruly manner when they returned home on short vacations, often fighting amongst themselves, sometimes even in gangs. Some of this spilt over into anti-social acts, such as the destruction of vegetable gardens and the cutting down and uprooting of trees. Women, whose husbands, brothers and sons these were, found it difficult to explain such behaviour, but they were deeply concerned and felt something needed to be done about this urgently in order to avoid social disruption of family and community life.

7.5 *The quality of the environment*

The quality of the environment, particularly its degradation, did not appear to be a serious concern in the perceptions of the fisherfolk or of the island chiefs. Nor did the spectre of population-growth, which underlies the crisis in the quality of the environment, show up among the perceptions as something of concern. However, several other concerns that were raised suggest, on closer inspection, that there is the potential for an environmental problem in the islands which needs addressing.

The community and the island chiefs raised several concerns which are shown in Figure IV (p 13) and detailed below

- a. A complaint from the women, on islands where the beaches are customarily used as open-air toilets, was that they now had to get up earlier each morning and go further to find the necessary "privacy". They suggested toilets being built not because they were concerned with hygiene, or because of their concern with the possibility of polluting the lagoon or the groundwater, but because of their need for "privacy".
- b. A consistent complaint from fisherfolk was of seaweed growing in profusion in the lagoons. This in turn trapped silt and sand, and made the lagoons shallow, thereby creating problems for mooring and landing the *dhonis*. This could, perhaps, be related to the problem of defecation on the beaches, which causes the lagoons to be loaded with nutrients and encourages the growth of seaweed.
- c. In the more crowded islands, there was concern about the availability of water. People felt that they needed **more** public tanks to collect rainwater for drinking. In some cases, they also complained that the groundwater, filtered though it is through living coral, is turning slightly brackish, possibly due to saline intrusion as a result of higher levels of extraction or due to pollution. This second fact is particularly important, as modernization is promoting

Figure III

NEEDS APPRAISAL IN MEEMU, VAAVU AND FAAFU ATOLLS
PROBLEMS, CAUSAL LINKAGES AND IMPACTS



the building of toilets, both public and domestic, and these often drain into sewage tanks and soakpits which, given the high water table, can easily pollute the groundwater. The need for special sewerage systems that suit the unique conditions in the islands is imperative.

An indicator that such pollution may already be happening, to a small extent, is the mention by some of the family health workers that there is an incidence of water-borne gastro-intestinal problems, particularly amongst children, in a few of the crowded islands.

- d. In the past, given the style of life, solid waste in the islands primarily meant organic waste, which, given time, would be bio-degraded. But observations in the islands now show that things are changing. Increasingly, goods available in the islands and brought in from Male are packaged in bottles, tins and plastic. It is not surprising any more to find a bottle or a soft drink can or even plastic bags littering the beach and the lagoon. Such packaging when disposed does not degrade; rather, it remains to pollute the island and the reef.

All these concerns can stand by themselves, but when found together, and found only in islands, especially in islands that are crowded, they seem to suggest that the population numbers are closing in on the carrying capacity of the islands. The need to clarify in the minds of the people and the policy-makers the nexus between population, resources and environment becomes not only important but urgent, given the smallness and isolation of the islands.

7.6 *Community health*

It is difficult to judge the quality of health of a community without a detailed study, unless, of course, people are in exceptionally good health or display visible signs of ill-health. However, by looking at various factors in the environment, in lifestyles and in the availability of health care, the tendency of a community to ill-health can be suggested.

Some of the health-affecting factors observed on the islands as well as the perceptions of the community were studied in terms of Figure V (p 14) and resulted in the emergence of a health scenario that should be a matter of concern. The following details contributed to this picture

- a. Women in the child-bearing age may be facing health problems because of large family sizes and low child spacing. For example, in Nilandhoo Island in Faafu Atoll, no woman in the child-bearing age was seen who was not either pregnant or lactating, a condition that eventually stresses health.
- b. The island folk have a diet which is not short of protein and carbohydrates but, due to traditional practices (which include a diet short on vegetables) and shortages, is low in vitamins and minerals. There is also an increase in the consumption of processed and packaged 'junk' foods and drinks.
- c. Smoking and chewing tobacco is common and is getting more so amongst the young. This can only lead to ill-health.
- d. When these conditions are seen along with poor access to health and nutrition education, and, particularly, preventive and curative care, then the situation definitely warrants attention.
- e. The health system is trying hard to improve access to preventive and curative care, but shortages in manpower and a very difficult logistics situation make it difficult to bring about improvement.

The community, however, does not perceive itself as being in a problematic health situation, though women are concerned about child health and maternal care, both antenatal and postnatal.

Figure I.V

NEEDS APPRAISAL IN MEEMU, VAAVU AND FAAFU ATOLLS
PROBLEMS, CAUSAL LINKAGES AND IMPACTS

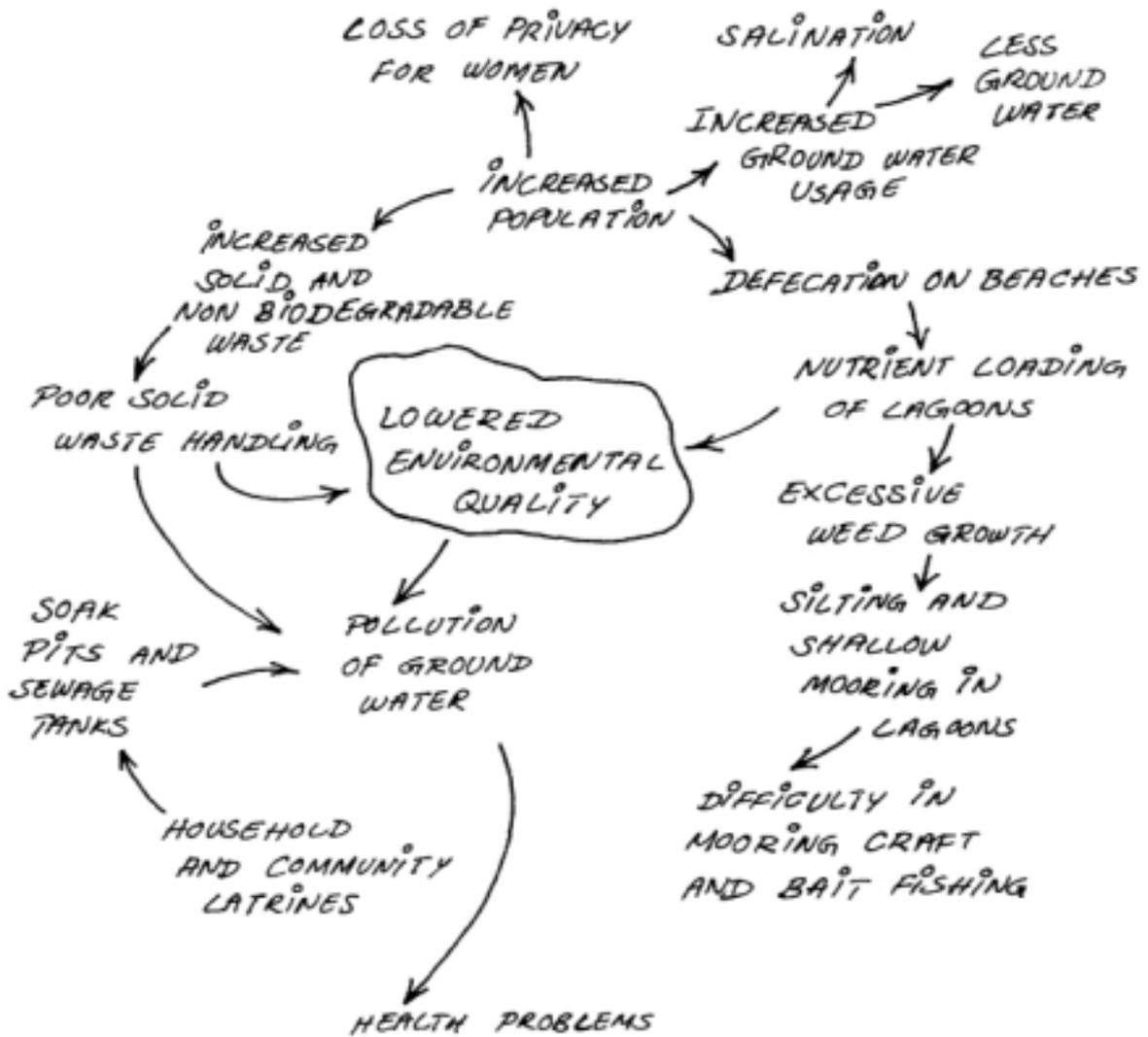
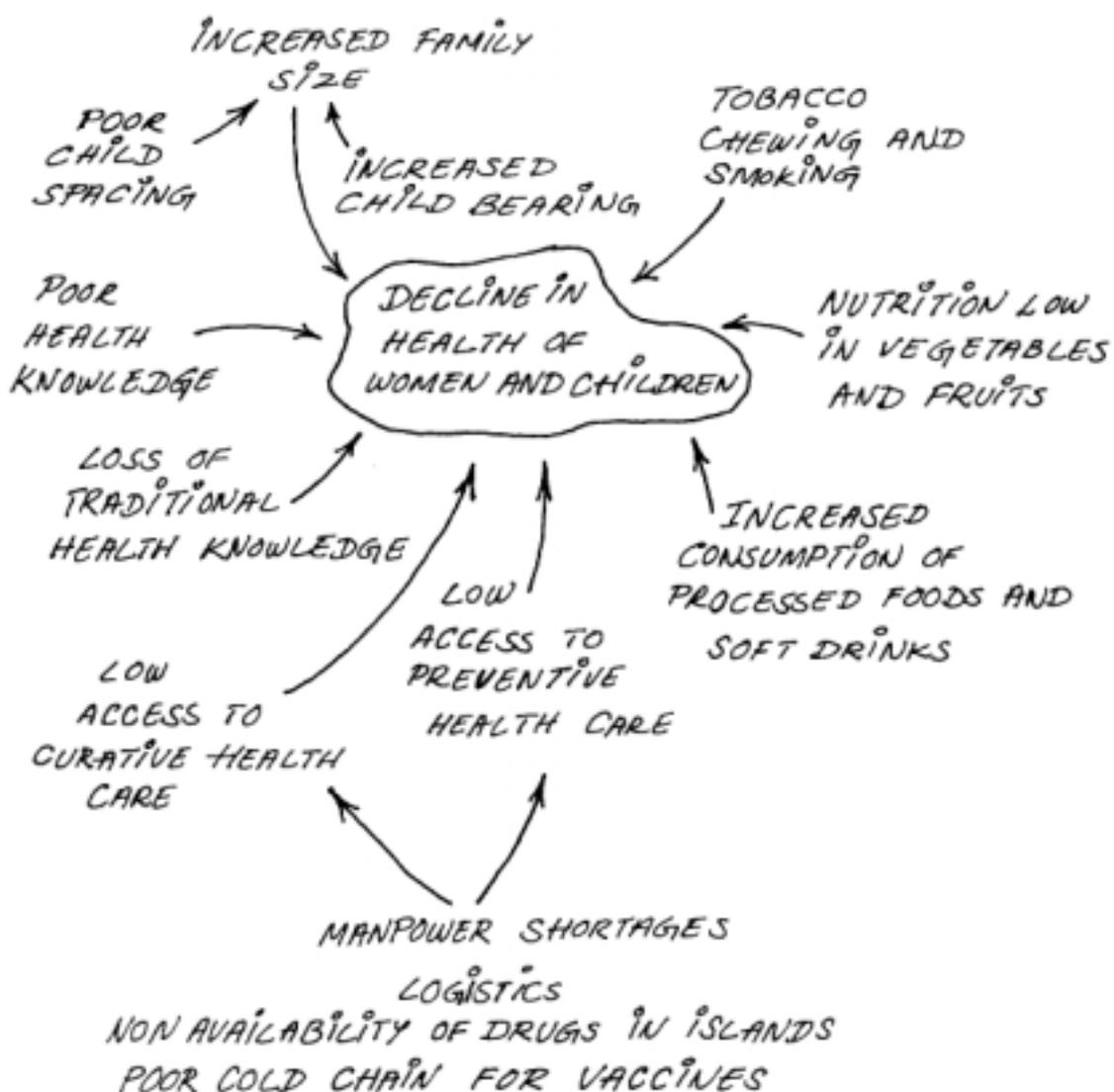


Figure V

NEEDS APPRAISAL IN MEEMU, VAAVU AND FAAFU ATOLL
PROBLEMS, CAUSAL LINKAGES AND IMPACTS



8. *CONCLUSIONS*

The study set out to understand the status of fisherfolk in the Republic of Maldives, and to identify their needs, hoping to be able to use it as a guide in programming the efforts of the extension service. It was also clearly understood that this would be only a beginning and would have to be built upon with further studies and encounters.

Two or three factors need to be considered when looking at the findings in an overall sense. First, and perhaps most importantly, since the clusters of problems and concerns which are faced by fisherfolk have been identified and would appear to be often inter-related, it would seem that any **action would have to be of a comprehensive nature**. In fact, given the mandate of the Ministry of Fisheries and Agriculture (MOFA), there is little it can do directly on its own. This would suggest that, more than taking direct action, **MOFA would have to play a coordinating and catalytic role** to enable a comprehensive improvement programme to be addressed to fisherfolk problems.

Secondly, the nexus between population, environment and resources and its combined impact is becoming more visible in the problem scenario. Given the isolated, limited nature of the geography, concerted action is required NOW, rather than later, when problems may become more serious.

And, lastly, given the logistics and given the self-reliant nature of the communities, it is vital that efforts are taken to **encourage the participation of the communities in understanding the problems** they have articulated in the study and to **activate them into taking action to initiate local solutions** and to assist in the national-level solutions to their problems.

The staff of MOFA could not have done this study without the enthusiastic support of the people of the islands or the cooperation of the Ministry of Health and Welfare, the Ministry of Education and the Ministry of Atolls Administration and their island level and atoll level staffs. We are grateful to all of them for their help and for giving us this opportunity.

Table I
Population Trends in the Islands of Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>	<i>Island</i>	<i>Pop. '77*</i>	<i>Pop. '85*</i>	<i>Pop. '89**</i>	<i>% Pop.> 15'89**</i>
MEEMU	Raiymandhoo	104	140	167	44.31
	Madifushi	101	122	171	45.61
	Veyvah	119	151	215	42.32
	Mulah	588	691	1030	47.76
	Muli	373	442	629	44.83
	Naalaafushi	230	239	378	41.53
	Kolhufushi	602	704	940	49.14
	Dhiggaru	640	641	994	39.43
	Maduvvaree	338	363	545	40.91
		Sub-total	3095	3493	5069
(16) VAAVU	Felidhoo	172	281	271	55.35
	Rakeedhoo	210	247	324	48.14
	Fulidhoo	245	281	506	57.31
	Keyodhoo	329	419	545	51.74
	Thinadhoo	122	126	168	38.09
		Sub-total	1078	1354	1814
FAAFU	Feeali	420	478	676	50.44
	Bileddhoo	472	496	720	51.38
	Dharabodhoo	144	178	275	54.18
	Magoodhoo	301	328	434	45.62
	Nilandhoo	649	668	1010	50.39
		Sub-total	1986	2148	3115
	Total	6159	6995	9998	47.29 (avg.)

* Population and Housing Census of 1985, Preliminary Results (Ministry of Planning and Development, Republic of Maldives)

** Extracted from Island Population Registers, December 1989

Table II
Occupation Pattern in Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>		<i>Meemu</i>	<i>Vaavu</i>	<i>Faafu</i>
Total Households		572	221	345
Sample Households		94	31	67
Average Size of Households		7.7	7.7	7.8
Economically Active	(M)	155	71	122
Population in Sample	(F)	68	29	58
Average No. of Economically Active Persons/Household	(M)	1.64	2.29	1.82
	(F)	0.72	0.93	0.86
Fishing/Processing	(M)	74	22	11
	(F)	4	1	1
	(T)	78	23	12
Coir Rope/Cadjan Making	(M)	2	3	2
	(F)	33	8	43
	(T)	35	11	45
Civil Service	(M)	15	13	14
	(F)	13	10	5
	(T)	28	23	19
Tourism (Resort <i>Yacht/Dhoni</i>)	(M)	7	21	5
	(F)	4		
	(T)	11	21	5
Sea Cucumber Collection	(M)	3	2	2
	(F)		1	
	(T)	3	3	2
Sea Shell Collection	(M)	1	—	1
	(F)	1	1	—
	(T)	2	1	1
Sewing/Embroidery	(M)	—	—	—
	(F)	5	5	4
	(T)	5	5	4
Skilled Labour (Mason/Blacksmith/ Carpenter)	(M)	20	2	15
	(F)			1
	(T)	20	2	16
Agriculture	(M)	8	—	3
	(F)	5	1	—
	(T)	13	1	3
Crew of Ship/Fishing Vessel	(M)	9	4	
	(F)	—	—	
	(T)	9	4	

<i>Atoll</i>		<i>Meemu</i>	<i>Vaavu</i>	<i>Faafu</i>
Running a Business/Shop	(M)	1	—	2
	(F)	2	1	2
	(T)	3	1	4
Working in Male	(M)	16	4	5
	(F)	2	1	—
	(T)	18	5	5
Coral/Sand Mining	(M)			50
	(F)			—
	(T)			50
Turtle Hunting	(M)			8
	(F)			—
	(T)			8
Others	(M)	—		4
	(F)	1		2
	(T)	1		6

Table III
Employment Status in Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>	<i>Number of Households</i>		<i>Employer</i>	<i>Employee</i>	<i>Self-Employed Own. Acct. Worker</i>	<i>Family Worker</i>	<i>Armed Forces</i>	<i>Total</i>
MEEMU	94	<i>No.</i>	13	132	71	23	2	241
		<i>Per cent</i>	5.39	54.77	29.46	9.54	0.83	100.00
VAAVU	31	<i>No.</i>	1	66	24	1	2	94
		<i>Per cent</i>	1.06	70.21	25.53	1.06	2.13	100.00
FAAFU	67	<i>No.</i>	4	85	87	3	0	179
		<i>Per cent</i>	2.23	47.49	48.60	1.68	0.00	100.00

SOURCE : Household survey

Table IV
Ownership of Assets in Sampled Households in Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>	<i>Number of Households</i>		<i>House</i>	<i>Dhoni</i>	<i>Fishing Gear</i>	<i>Generator</i>	<i>Sewing Machine</i>	<i>Radio</i>	<i>TV/Video</i>	<i>Bicycle</i>	<i>Veg. Grain Plantation</i>	<i>Trees</i>
MEEMU	94	<i>No.</i>	94	29	10	5	35	87	3	5	32	75
		<i>Per cent</i>		30.85	9.4	4.70	32.90	87.00	2.82	4.70	30.08	70.50
VAAVU	31	<i>No.</i>	31	2	4	4	12	27	3	0	16	20
		<i>Per cent</i>		6.45	12.90	12.90	38.70	87.09	9.67	0.00	51.61	64.51
FAAFU	67	<i>No.</i>	67	22	12	8	40	54	1	5	17	49
		<i>Per cent</i>		32.84	17.91	11.94	59.70	80.60	1.49	7.46	25.37	73.13

SOURCE Household survey

Table V
Perception of Relative Economic Status in Sampled Households in Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>	<i>Number of Households</i>		<i>Very Well Off</i>	<i>Well Off</i>	<i>Average</i>	<i>Below Average</i>	<i>Well Below Average</i>
MEEMU	94	<i>No.</i>	8	12	50	2	2
		<i>Percent</i>	8.00	12.77	53.19	2.13	2.13
VAAVU	31	<i>No.</i>	4	5	19	3	0
		<i>Percent</i>	12.90	16.13	61.29	9.68	0.00
FAAFU	67	<i>No.</i>	9	3	47	9	
		<i>Percent</i>	13.43	4.47	70.15	13.43	1.49

(20)

SOURCE Household survey

Table VI
Occupational Shifts in Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>		<i>Mee,nu</i>	<i>Vaavu</i>	<i>Faafu</i>
Total Households		572	221	345
Sample Households		94	31	67
Economically Active	(M)	155	71	122
Population in Sample	(F)	68	29	58
<i>Shift in main occupation from:</i>				
Fishing and Processing		23	16	26
Coir Rope/Cadjan Making		9	3	10
Civil Service		4	3	
Tourism (Resort Yacht/Dhoni)				
Sea Cucumber Collection		—	—	—
Sea Shell Collection		1	1	
Sewing and Embroidery		6	3	
Skilled Labour (Mason/Blacksmith/Carpenter)		3	—	1
Agriculture		3	2	
Crew of Ship/Fishing Vessel		—		2
Running a Business/Shop		3		—
Working in Male				6
Coral/Sand Mining				4
Total occupational shifts as % of economically active population in sample		22	26	31

SOURCE : Household survey

Table VII
Reasons for Occupational Shifts in Meemu, Vaavu and Faafu Atolls

<i>Reasons</i>	<i>Meemu</i>		<i>Vaavu</i>		<i>Faafu</i>	
	<i>No.</i>		<i>No.</i>		<i>No.</i>	
No reason given	5	10.0	1	3.8	3	5.4
Increased earnings	11	21.0	14	50.0	24	43.6
Staying with family	3	6.0	4	14.0	6	10.9
Poor fishing	1	2.0	1	3.8	7	12.7
Nocraft	—	—	2	7.0	—	—
Poor health/old age	18	36.0	5	18.0	6	10.9
Lack of job satisfaction	7	13.0	1	3.8	4	7.2
Other reasons	7	13.0	—	—	5	9.0
Total	52	100	28	100	55	100

SOURCE : Household survey

Table VIII
Perception of Utilization of Additional Income in Meemu, Vaavu and Faafu Atolls

<i>Atoll</i>	<i>Meemu</i>	<i>Vaavu</i>	<i>Faafu</i>	<i>Total</i>
Total number of sample households	94	31	67	192
Better food	45	26	65	136
Repair/improve house	336	III	320	767
Medical treatment	71	22	94	187
Educate children	180	51	181	412
Saving	40	16	71	127
Buy watch/radio	29	8	22	59
Income-generating activity	44	11	20	75
Others	22	9	64	95
Total	861	285	904	2060

SOURCE Household survey

Table IX
Problems, Needs and Concerns in Order of Community Priority – Meemu Atoll

	<i>Raiy- mandhoo</i>	<i>Dhig- garu</i>	<i>Maduv- varee</i>	<i>Madi- fushi</i>	<i>Naalaa- fushi</i>	<i>Kolhu- fushi</i>	<i>Muli</i>	<i>Mulah</i>	<i>Vevvah</i>	<i>All Islands</i>
1. Difficulties in Collection/Marketing of Fish	4	7	7	—	6	3	—	4	—	7
2. Need for Boat Hauling Devices	—	—	—	2	—	—	3	—	5	11
3. Shallow Harbours (Lagoons)	3	6	2	1	—	1	—	—	3	3
4. Need of Credit for Fishing Boats	—	—	—	—	—	—	—	—	—	—
5. Need of Engine Maintenance Facilities	—	—	—	—	—	—	—	—	—	—
6. Need for Fish Aggregating Devices	—	—	8	—	—	—	—	—	—	14
7. Poor Access to Health Facilities	1	4	3	2	2	2	—	3	2	2
8. Problems in Sewage Disposal	—	2	6	3	4	4	2	6	—	4
9. Low Availability of Drinking Water	—	—	5	—	3	2	—	2	1	5
10. Infestation by Bats/Rats/Crows	—	—	—	4	7	7	—	7	4	10
11. Shortage of Trained Midwife/FHW	—	—	—	—	—	—	—	—	—	—
12. Non-Availability of Traditional Med. Herbs	—	—	—	—	—	—	—	—	—	—
13. Lack of Lodging for Visitors	—	—	—	—	—	—	—	—	—	—
14. Lack of School Facilities	5	—	—	—	5	6	—	5	5	9
15. Lack of Trained Teachers	2	5	—	—	3	7	—	2	3	6
16. Electricity Supply	—	—	—	—	—	—	—	5	—	12
17. Reef Openings to Access Lagoons	—	—	—	—	—	—	—	—	6	13
18. Jetties	—	—	—	—	—	—	—	—	—	—
19. Navigation Markers/Lights	—	—	—	—	—	—	—	—	—	—
20. Lack of Protective Sea Wall	—	—	—	—	—	—	—	—	—	—
21. Shortage of Burial Space	—	—	—	—	—	—	—	—	—	—
22. Shortage of Land for Dwelling Allocation	—	3	4	3	7	—	—	—	—	8
23. Need for Mosques	—	—	—	—	—	—	—	—	—	—
24. Need for Island Office Building	—	—	—	—	—	—	—	—	—	—
25. Need for Libraries	—	—	—	—	—	—	—	—	—	—
26. Need for Dependable Inter-Island Communication	—	—	—	—	—	—	—	—	—	—
27. Shortage of Firewood	—	1	1	3	1	—	I	I	—	—
28. Plants Infested	—	—	—	—	—	8	—	—	—	13
29. Emigration of Youth/Males	—	—	—	—	—	—	—	—	—	—
30. Social Conflicts	—	—	—	—	—	—	—	—	—	—
31. Erosion	—	—	—	—	—	—	—	—	—	—

Table X

Problems, Needs and Concerns in Order of Community Priority – Vaavu Atoll

	<i>Fulidhoo</i>	<i>Felidhoo</i>	<i>Rakeedhoo</i>	<i>Keyodhoo</i>	<i>Thinadhoo</i>	<i>All Islands</i>
1. Difficulties in Collection/Marketing of Fish	1		2	6		5
2. Need for Boat Hauling Devices						
3. Shallow Harbours (Lagoons)	5	1	4	3	1	
4. Need of Credit for Fishing Boats					2	10
5. Need of Engine Maintenance Facilities						
6. Need for Fish Aggregating Devices	—	—	—	—	—	—
7. Poor Access to Health Facilities	2	4	6	4	3	3
8. Problems in Sewage Disposal	4	6	4	7	6	7
9. Low Availability of Drinking Water	—	4	7	9		9
10. Infestation by Bats/Rats/Crows	7	5	—	8		10
11. Shortage of Trained Midwife/FHW	7	5	8	—		11
12. Non-Availability of Traditional Med. Herbs						
13. Lack of Lodging for Visitors						
14. Lack of School Facilities			8	2	4	6
15. Lack of Trained Teachers			3		5	8
16. Electricity Supply		2				11
17. Reef Openings to Access Lagoons			5			12
18. Jetties						
19. Navigation Markers/Lights				8		13
20. Lack of Protective Sea Wall						
21. Shortage of Burial Space						
22. Shortage of Land for Dwelling Allocation	3	3	2	5	6	4
23. Need for Mosques						
24. Need for Island Office Building						
25. Need for Libraries						
26. Need for Dependable Inter-Island Communication						
27. Shortage of Firewood	8		1	1	6	2
28. Plants Infested						
29. Emigration of Youth/Males						
30. Social Conflicts						
31. Erosion		7	8			14

Table XI
Problems, Needs and Concerns in Order of Community Priority – Faafu Atoll

	<i>Nilandhoo</i>	<i>Feeali</i>	<i>Dharabodhoo</i>	<i>Magoodhoo</i>	<i>Bileddhoo</i>	<i>All Islands</i>
1. Difficulties in Collection/Marketing of Fish		10		4	4	8
2. Need for Boat Hauling Devices						
3. Shallow Harbours (Lagoons)	2	2	6	5	1	2
4. Need of Credit for Fishing Boats						
5. Need of Engine Maintenance Facilities						
6. Need for Fish Aggregating Devices						
7. Poor Access to Health Facilities	3	3	1	1	2	
8. Problems in Sewage Disposal	5	8	6		5	5
9. Low Availability of Drinking Water		5		3	8	10
10. Infestation by Bats/Rats/Crows	1	—	4	5		4
11. Shortage of Trained Midwife/FHW	4	7	3	—		9
12. Non-Availability of Traditional Med. Herbs	6					13
13. Lack of Lodging for Visitors					7	14
14. Lack of School Facilities		6				6
15. Lack of Trained Teachers		7				12
16. Electricity Supply			4		7	12
17. Reef Openings to Access Lagoons						
18. Jetties		9			4	11
19. Navigation Markers/Lights						
20. Lack of Protective Sea Wall						
21. Shortage of Burial Space						
22. Shortage of Land for Dwelling Allocation		4	5		6	7
23. Need for Mosques						
24. Need for Island Office Building						
25. Need for Libraries						
26. Need for Dependable Inter-Island Communication						
27. Shortage of Firewood		1			3	3
28. Plants Infested						
29. Emigration of Youth/Males						
30. Social Conflicts						
31. Erosion		11				15

Table XII
Problems, Needs and Concerns in Order of Community Priority – A Comparison

	<i>Meemu</i>	<i>Vaavu</i>	<i>Faafu</i>
1. Difficulties in Collection/Marketing of Fish	7	5	8
2. Need for Boat Hauling Devices	11	—	—
3. Shallow Harbours (Lagoons)	3	1	2
4. Need of Credit for Fishing Boats		10	
5. Need of Engine Maintenance Facilities			
6. Need for Fish Aggregating Devices	14		
7. Poor Access to Health Facilities	2	3	1
8. Problems in Sewage Disposal	4	7	
9. Low Availability of Drinking Water	5	9	10
10. Infestation by Bats/Rats/Crows	10	10	4
11. Shortage of Trained Midwife/FHW		11	9
12. Non-Availability of Traditional Med. Herbs			13
13. Lack of Lodging for Visitors			14
14. Lack of School Facilities	9	6	6
15. Lack of Trained Teachers	6	8	12
16. Electricity Supply	12	11	12
17. Reef Openings to Access Lagoons	13	12	
18. Jetties			11
19. Navigation Markers/Lights		13	
20. Lack of Protective Sea Wall			
21. Shortage of Burial Space			
22. Shortage of Land for Dwelling Allocation	8	4	7
23. Need for Mosques			
24. Need for Island Office Building			
25. Need for Libraries			
26. Need for Dependable Inter-Island Communication			
27. Shortage of Firewood	1	2	3
28. Plants Infested	13		
29. Emigration of Youth/Males			
30. Social Conflicts			
31. Erosion		14	15

Table XIII
Problems, Needs and Concerns Perceived by Island Chiefs (Not Prioritized) – Meemu Atoll

	<i>Raiy- mandhoo</i>	<i>Dhig- garu</i>	<i>Maduv- varee</i>	<i>Madi- fushi</i>	<i>Naalaa- fushi</i>	<i>Ko/hu- fushi</i>	<i>Mu/i</i>	<i>Mulah</i>	<i>Vevvah</i>
1. Difficulties in Collection/Marketing of Fish	—	—	—	—	—	X	—	—	—
2. Need for Boat Hauling Devices	—	—	—	—	—	X	—	—	—
3. Shallow Harbours (Lagoons)	—	—	X	—	—	—	—	—	X
4. Need of Credit for Fishing Boats	—	—	—	—	—	—	—	X	—
5. Need of Engine Maintenance Facilities	—	—	X	—	—	—	—	—	—
6. Need for Fish Aggregating Devices	—	—	—	—	—	—	—	—	—
7. Poor Access to Health Facilities	—	—	—	—	—	X	—	—	—
8. Problems in Sewage Disposal	—	X	—	—	—	—	—	—	—
9. Low Availability of Drinking Water	—	—	—	—	X	X	—	X	—
10. Infestation by Bats/Rats/Crows	—	—	—	—	X	—	—	—	—
11. Shortage of Trained Midwife/FHW	—	—	X	—	X	—	—	—	—
12. Non-Availability of Traditional Med. Herbs	—	—	—	—	—	—	—	—	—
13. Lack of Lodging for Visitors	—	—	—	—	—	—	X	—	—
14. Lack of School Facilities	—	X	—	—	—	—	—	—	X
15. Lack of Trained Teachers	—	—	—	X	X	X	—	X	—
16. Electricity Supply	—	—	X	X	—	—	—	—	—
17. Reef Openings to Access Lagoons	X	—	—	X	X	X	X	—	—
18. Jetties	X	X	—	X	X	—	X	X	—
19. Navigation Markets/Lights	—	—	X	—	—	—	—	X	—
20. Lack of Protective Sea Wall	—	—	—	—	—	—	—	—	—
21. Shortage of Burial Space	—	—	—	—	—	—	—	X	—
22. Shortage of Land for Dwelling Allocation	—	X	—	—	—	—	—	—	—
23. Need for Mosques	—	—	—	—	X	—	X	—	X
24. Need for Island Office Building	—	—	—	—	—	—	—	X	—
25. Need for Libraries	—	X	—	—	—	—	—	—	—
26. Need for Dependable Inter-Island Communication	—	—	—	—	—	—	—	—	—
27. Shortage of Firewood	—	—	X	—	—	—	—	—	—
28. Plants Infested	—	—	—	—	—	—	—	—	—
29. Emigration of Youth/Males	—	—	—	—	—	—	—	—	—
30. Social Conflicts	—	—	—	—	—	—	—	—	—
31. Erosion	—	—	—	—	X	X	—	—	X

Table XIV
Problems, Needs and Concerns Perceived by Island Chiefs (Not Prioritized) – Vaavu Atoll

	<i>Fulidhoo</i>	<i>Fe/idhoo</i>	<i>Rakeedhoo</i>	<i>Keyodhoo</i>	<i>Thinadhoo</i>
1. Difficulties in Collection/Marketing of Fish					
2. Need for Boat Hauling Devices					
3. Shallow Harbours (Lagoons)		X	X	X	X
4. Need of Credit for Fishing Boats					
5. Need of Engine Maintenance Facilities					
6. Need for Fish Aggregating Devices					
7. Poor Access to Health Facilities					
8. Problems in Sewage Disposal					
9. Low Availability of Drinking Water					
10. Infestation by Bats/Rats/Crows					
11. Shortage of Trained Midwife/FHW					X
12. Non-Availability of Traditional Med. Herbs					
13. Lack of Lodging for Visitors					
14. Lack of School Facilities		X	X	X	X
15. Lack of Trained Teachers				X	
16. Electricity Supply	X	X	X	X	X
17. Reef Openings to Access Lagoons					X
18. Jetties	X			X	
19. Navigation Markers/Lights					
20. Lack of Protective Sea Wall					X
21. Shortage of Burial Space					
22. Shortage of Land for Dwelling Allocation				X	
23. Need for Mosques	X			X	
24. Need for Island Office Building					X
25. Need for Libraries					
26. Need for Dependable Inter-Island Communication					X
27. Shortage of Firewood					
28. Plants Infested					
29. Emigration of Youth/Males					
30. Social Conflicts					
31. Erosion					

Table XV

Problems, Needs and Concerns Perceived by Island Chiefs (Not Prioritized) – Faafu Atoll

	<i>Nilandhoo</i>	<i>Feeali</i>	<i>Dharabodhoo</i>	<i>Magoodhoo</i>	<i>Bileddhoo</i>
1. Difficulties in Collection/Marketing of Fish					
2. Need for Boat Hauling Devices					
3. Shallow Harbours (Lagoons)	X	X			X
4. Need of Credit for Fishing Boats					
5. Need of Engine Maintenance Facilities					
6. Need for Fish Aggregating Devices					
7. Poor Access to Health Facilities				X	
8. Problems in Sewage Disposal					
9. Low Availability of Drinking Water					
10. Infestation by Bats/Rats/Crows	X	–	–	X	–
11. Shortage of Trained Midwife/FHW	–	X	X	X	X
12. Non-Availability of Traditional Med. Herbs					
13. Lack of Lodging for Visitors					
14. Lack of School Facilities					
15. Lack of Trained Teachers			X	X	X
16. Electricity Supply					X
17. Reef Openings to Access Lagoons		X	X	X	X
18. Jetties	X			X	X
19. Navigation Markers/Lights	X				
20. Lack of Protective Sea Wall					
21. Shortage of Burial Space					
22. Shortage of Land for Dwelling Allocation	X				
23. Need for Mosques				X	
24. Need for Island Office Building					
25. Need for Libraries					
26. Need for Dependable Inter-Island Communication					
27. Shortage of Firewood					
28. Plants Infested					
29. Emigration of Youth/Males			X		
30. Social Conflicts		X			X
31. Erosion					



Community Service — the women regularly get together to sweep their island clean



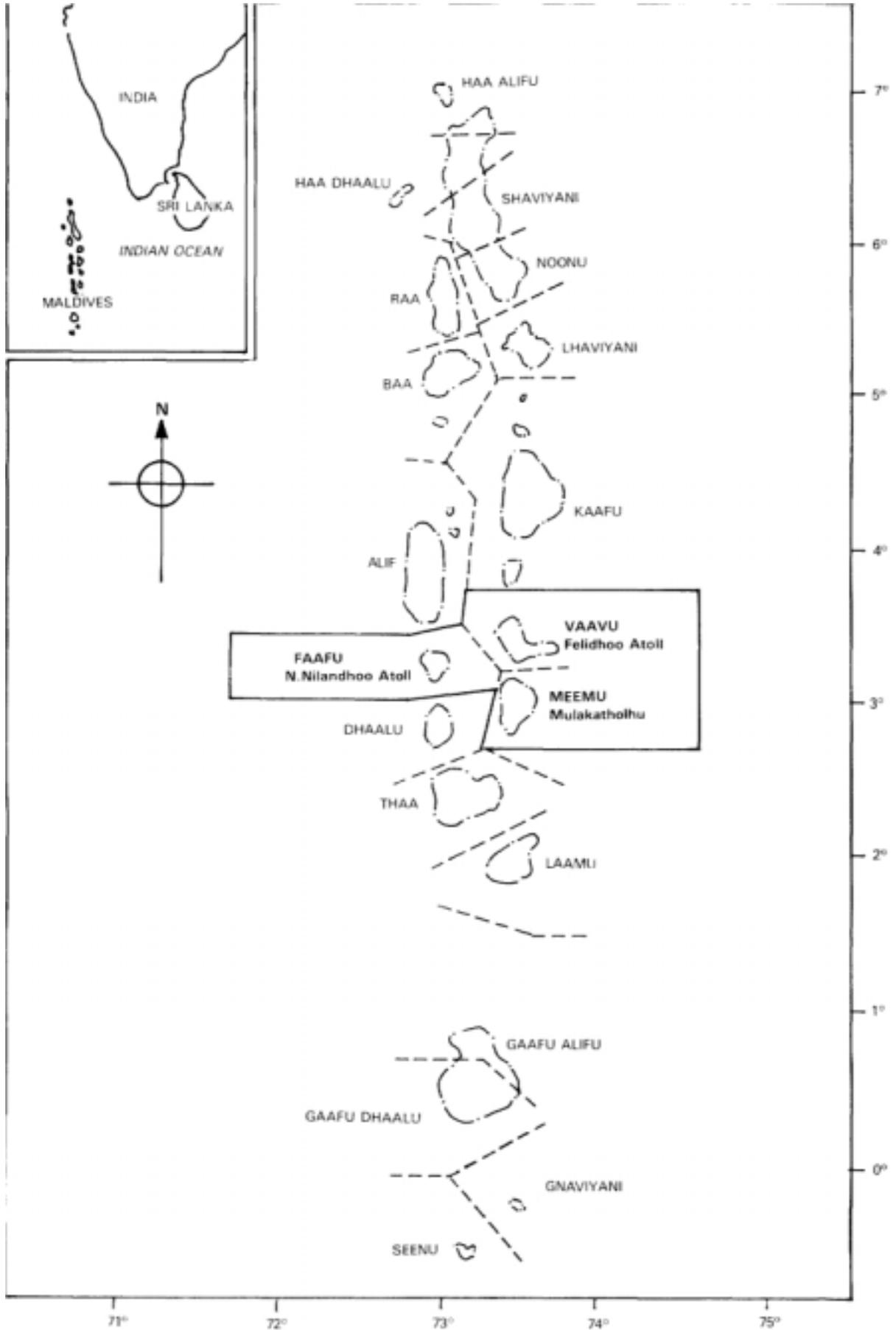
Mothers and children on a Maldivian island



Grinding the condiments for a Maldivian meal

APPENDICES

MAP OF MALDIVES SHOWING PROJECT AREA



Appendix I
SAMPLING FOR HOUSEHOLD QUESTIONNAIRES
AND DATES OF SURVEY

<i>Si. No</i>	<i>Date of the Survey</i>	<i>Name of the Is/and</i>	<i>Total Households</i>	<i>Households Sampled</i>
Faafu Atoll				
1.	August	F. Nilandhoo	97	20
2.	01.12.89	F. Feeali	75	13
3.	02.12.89	F. Bileddhoo	81	16
4.	03.12.89	F. Magoodhoo	50	10
5.	03.12.89	F. Dharabodhoo	42	8
Meemu Atoll				
6.	04.12.89	M Kolhufushi	106	16
7.	05.12.89	M Naalaafushi	53	8
8.	05.12.89	M. Mull	75	12
9.	06.12.89	M Mulah	103	18
10.	06.12.89	M Vevvah	26	4
11.	07.12.89	M Madifushi	17	4
12.	07.12.89	NI. Raiymandhoo	20	4
13.	07.12.89	M. Dhiggaru	106	16
14.	08.12.89	M. Maduvvarc	66	12
Vaavu Atoll				
15.	10.12.89	V. Rakeedhoo	35	5
16.	10.12.89	V. Keyodhoo	64	9
17.	10.12.89	V. Felidhoo	54	8
18.	11.12.89	V. Thinadhoo	25	4
19.	11.12.89	V. Fulidhoo	43	5
Totaf			1138	192

15% Households were surveyed in Meemu and Vaavu Atoll

25% Households were surveyed in Faafu Atoll



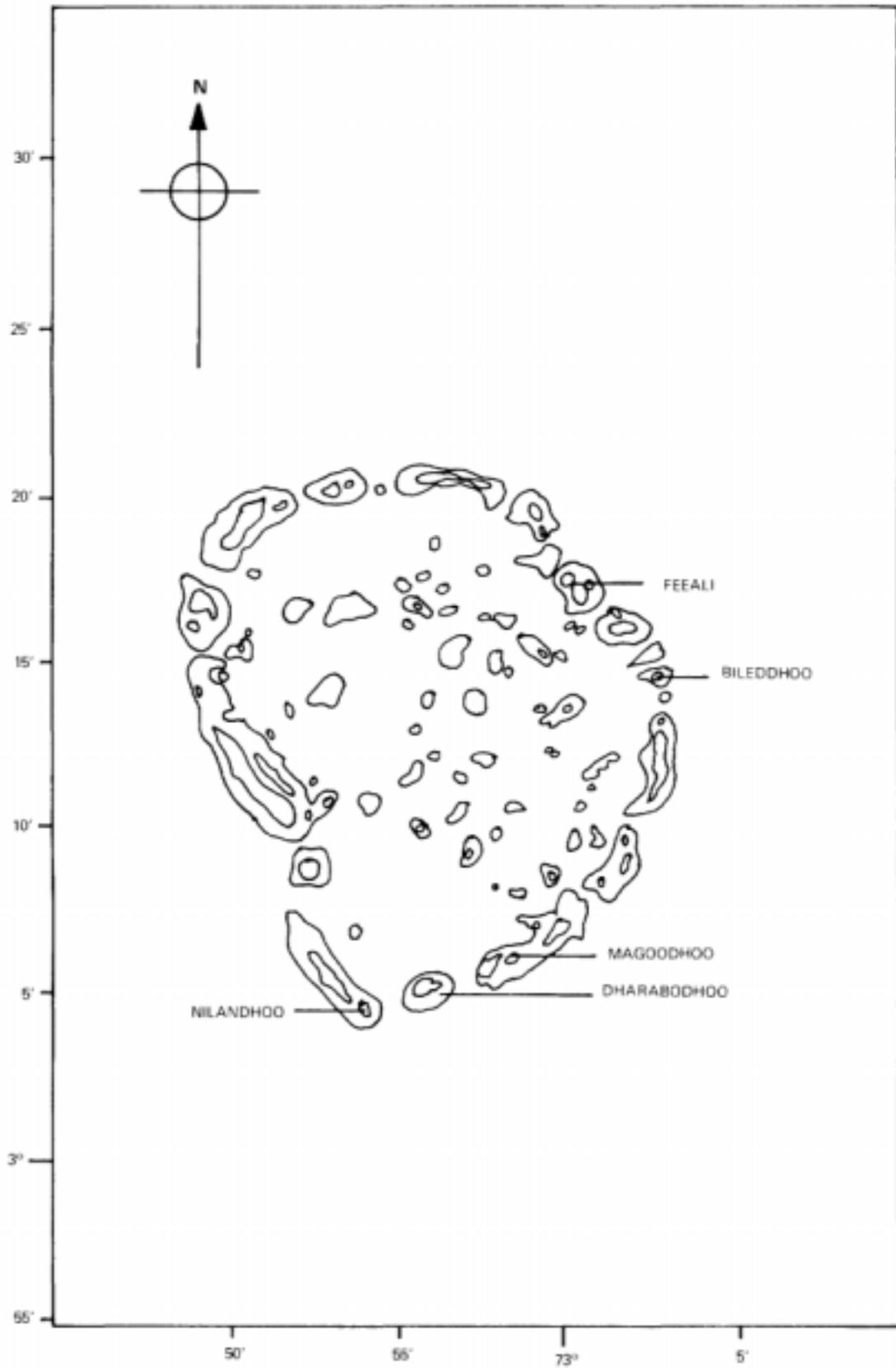
Building a house with bits of the coral reef in the Maldives



The 'yard' outside a few Maldivian homes

Appendix II
ISLAND FACT SHEETS

FAAFU ATOLL



ISLAND Nilandhoo
ATOLL Faafu
ISLAND CHIEF : Hassan Hamid

1. POPULATION

(Above 15 yrs) Male : 528 (Below 15 yrs) Male : 266
(July 1989) Female 482 Female : 243
Average Household : 3/4

2. OCCUPATIONS

Sand- and coral-mining, building construction, boatbuilding, handicrafts and fishing.

3. AVAILABLE SKILLS

Boatbuilders, carpenters, masons, blacksmiths, tailors, mat-weavers, thatch-weavers and rope-makers.

4. EDUCATION FACILITIES

One *makihab* for 54 children with two male and two female teachers. One *madrassa* for 241 children with eight male and two female teachers. Presently upto grade 4.

5. HEALTH SERVICES

Government health workers, traditional healers, midwife and *fandilhaveriyas*.

6. VEGETATION

Coconut, breadfruit, bananas, papaya, pumpkin, chillies and betel nut.

7. FISH PRODUCTION

Tuna and reef fish.

8. FISHERIES INFRASTRUCTURE

Harbour, jetty, *nerus*, navigation lights, boatbuilders, boat hauling device, engine and boat repair facilities, boat mooring and landing facilities.

9. FISHING FLEET

Thirteen mechanized boats, six sailing *dhonis*, 14 trolling boats and seven *bokkuras*.

10. FISHING SEASON

March to December. Peak season May to August.

ii. TOTAL POWER GENERATION 25 kwh

12. TOTAL FRESH WATER STORAGE : 70 kl

13. DISTANCE TO CAPITAL (hrs) 2 1/2 hrs

14. DISTANCE TO MALE (hrs) 8 hrs

MAIN FEATURES

The island has a high population and a rapid population growth. The main occupation in this island is sand- and coral-mining from January to March. Fishing is mostly done for local consumption needs. Some of the boats are used for transport of goods, sand and coral. Electricity is generated by four privately-operated generators. The island has a general provision store owned by the Chief and credit is offered. Fresh water is stored in tanks owned by the community. Several organizations are present and address issues relating to village development, sport/cultural activities, religious matters and education. There is frequent travel by the people to Male and other neighbouring islands.

CURRENT PROBLEMS

1. Excessive infestation of rats and bats.
2. Weed growth in lagoon affecting draught and coir production.
3. Scarcity of medicines, medical herbs.
4. Poor child health care.
5. Indiscipline in youth.

ISLAND : Feeali
ATOLL : Faafu
ISLAND CHIEF : Moosa Hassan

1. POPULATION

(Above 15 yrs) Male : 165 (Below 15 yrs) Male : 172
Dec. 1989 Female 170 Female : 169
Average Household 6/7

2. OCCUPATIONS

Sand- and coral-mining, turtle/lobster fishery, sea cucumber collection, employment in tourist resorts.

3. AVAILABLE SKILLS

Mat-weaving, boat-building.

4. EDUCATION FACILITIES

One *madraasa* for 124 children with three male and one female teacher. Presently upto grade 7.

5. HEALTH SERVICES

Family health worker, midwife and circumcision specialist.

6. VEGETATION

Coconut, bananas, breadfruit, mango, papaya, guava, wood apple, *midhili*, brinjal and *thora*.

7. FISH PRODUCTION

Sea cucumber, turtle lobster.

8. FISHERIES INFRASTRUCTURE

No jetty, beach hauling device available, shallow harbour, *nerus*, navigation lights.

9. FISHING FLEET

Twelve mechanized *dhonis* and nine *bokkuras*.

10. FISHING SEASON

No fishing.

11. TOTAL POWER GENERATION 16 kwh

12. TOTAL FRESH WATER STORAGE 120 kl

MAIN FEATURES

The main occupation of the islanders is collection of sea cucumber. Fishing is mostly for turtles and lobsters. The tourist resort provides employment for some. Electricity is generated by privately owned generators. Provision stores offers credit. Fresh water is stored in tanks owned by the community. One organization looks after village development issues and youth welfare. Travel to Male is not very frequent, but is fairly regular to neighbouring islands.

CURRENT PROBLEMS

1. Weed growth in the lagoon.
2. No jetty.
3. Lack of medicines and inadequate health care services.
4. Lack of firewood.

ISLAND : Bileddhoo
ATOLL : Faafu
ISLAND CHIEF : Abdul Ghanee Ibrahim Kaleyfaan

1. POPULATION

(Above 15 yrs) Male : 184 (Below 15 yrs) Male : 188
(Dec. 1989) Female : 166 Female : 182
Average Household : 9/10

2. OCCUPATIONS

Sand- and coral-mining, thatch-weaving, rope-making, carpentry, boatbuilding and fishing.

3. AVAILABLE SKILLS

Thatch-weavers, rope-makers, carpenters, boatbuilders and blacksmiths.

4. EDUCATION FACILITIES

One *madraasa* for 140 children with two teachers.

5. HEALTH SERVICES

One family health worker, one midwife, ten traditional healers, *fandithaveriya* and circumcision specialist.

6. VEGETATION

Coconut, bananas, breadfruit, papaya, guava, wood apple, pumpkin, sweet potato, chillies and cabbage.

7. FISH PRODUCTION

Reef fish.

8. FISHERIES INFRASTRUCTURE

Harbour, *nerus*, navigation lights, boatbuilders, engine and boat repair services.

9. FISHING FLEET

Eight mechanized *dhonis*, 19 sailing *dhonis*, 14 trolling boats and 16 *bokkuras*.

10. FISHING SEASON

May to August.

11. TOTAL POWER GENERATION : 8 kwh

12. TOTAL FRESH WATER STORAGE : 113 kl

MAIN FEATURES

The main occupation in the island is sand- and coral-mining. Fishing is mostly for reef fish. Coir rope-making is a fairly important occupation for women. Electricity is generated by privately-owned generators. Provision stores offer credit. Fresh water is stored in tanks owned by the community. One organization called the Bileddhoo Orchid Club looks after village development issues. Regular travel to Male and neighbouring islands is undertaken.

CURRENT PROBLEMS

1. Shallow harbour.
2. No jetty.
3. Lack of firewood.
4. Insufficient power generation.

ISLAND Magoodhoo
ATOLL Faafu
ISLAND CHIEF Mohamed Ismail

1. POPULATION

(Above 15 yrs) Male : 126 (Below 15 yrs) Male : 101
Female : 110 Female : 97

Average Household 5/6

2. OCCUPATIONS

Sand- and coral-mining, fishing.

3. AVAILABLE SKILLS

Carpenters, boatbuilders, blacksmiths.

4. EDUCATION FACILITIES

One school for 108 students upto grade 6 with three teachers. Three privately run *kiyavaages* for 90 children.

5. HEALTH SERVICES

One family health worker, one midwife and one traditional healer.

6. VEGETATION

Coconut, bananas, papaya, mango, pumpkin, breadfruit, *chickanda*, sweet potato and chillies.

7. FISH PRODUCTION

For local consumption only.

8. FISHERIES INFRASTRUCTURE

Nerus and jetty.

9. FISHING FLEET

Seven mechanized boats, six trolling boats and eight *bokkurczs*

10. FISHING SEASON

May to December.

11. TOTAL POWER GENERATION : 8 kwh

12. TOTAL FRESH WATER STORAGE 135 ki

MAIN FEATURES

Magoodhoo is the capital of Faafu atoll. The main occupation of the people is sand- and coral-mining. Fishing is only for local consumption. Electricity is generated by community-owned generators. Fresh water is stored in community-owned tanks. Provision stores offer credit. One women's organization looks after income-generation activities for women.

CURRENT PROBLEMS

1. Lack of medicines and inadequate health care facilities.
2. No collection facilities for fish catch and hence no commercial fishing operations.
3. Inadequate fresh water.

ISLAND : Dharabodhoo
ATOLL : Faafu
ISLAND CHIEF Ibrahim Ismail

1. POPULATION

(Above 15 yrs) Male 79 (Below 15 yrs) Male : 81
(Dec. 1989) Female : 47 Female : 68
Average Household 7/8

2. OCCUPATIONS

Sand- and coral-mining, carpentry, masonry and fishing.

3. AVAILABLE SKILLS

Blacksmiths.

4. EDUCATION FACILITIES

One *madraasa* for 92 children with one teacher.

5. HEALTH SERVICES

One traditional healer.

6. VEGETATION

Coconut, bananas, mango, pumpkin, brinjal and chillies.

7. FISH PRODUCTION

Minimal, and mostly reef fish.

8. FISHERIES INFRASTRUCTURE

Harbour and jetty.

9. FISHING FLEET

Three mechanized boats, three sailing *dhonis*, four trolling boats and seven *bokkuras*.

10. FISHING SEASON

May to December.

11. TOTAL POWER GENERATION : 5 kwh

12. TOTAL FRESH WATER STORAGE : 64 kl

13. DISTANCE TO CAPITAL (hrs) 1 hr.

14. DISTANCE TO MALE (hrs) : 10 hrs.

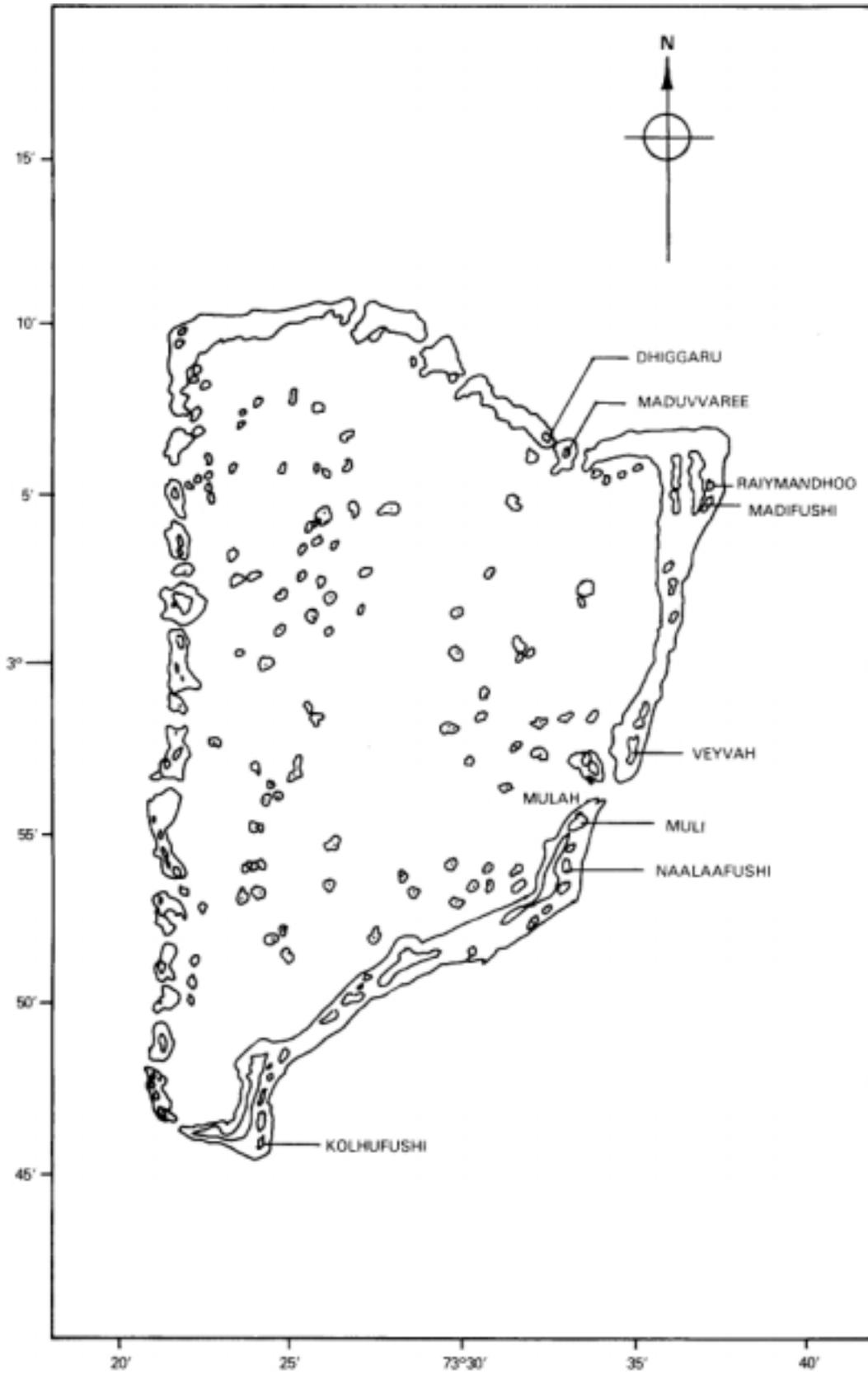
MAIN FEATURES

The main occupation in this island is sand- and coral-mining. Fishing is mostly for reef fish. Electricity is generated by privately-owned generators. Fresh water is stored in tanks owned by the community. There is one organization to look after village development matters. Travel to Male is not very frequent.

CURRENT PROBLEMS

1. No collection facility for fish catch.
2. Infestation of rats and bats.
3. Lack of employment opportunities and hence migration of menfolk.
4. No trained medical workers and lack of medicines and medical facilities.
5. Shallow *neru*.

MEEMU ATOLL



ISLAND : Kolhufushi
ATOLL : Meemu
ISLAND CHIEF : Mohamed Moosa Fulhu

1. POPULATION

(Above 15 yrs) Male : 255 (Below 15 yrs) Male : 238
Female : 223 Female : 224
Average Household : 8

2. OCCUPATIONS

Sea cucumber collection, fishing, collection of sea shells, rope-making and poultry rearing.

3. AVAILABLE SKILLS

Rope-makers, thatch-weavers, mat-weavers and embroiderers.

4. EDUCATION FACILITIES

One *madrassa* for 24 children with four male and two female teachers.

5. HEALTH SERVICES

Family health workers, four midwives, four traditional healers and circumcision specialists.

6. VEGETATION

Coconut, bananas, breadfruit, papaya, mango and bamboo.

7. FISH PRODUCTION

Sea cucumber, tuna and reef fish.

8. FISHERIES INFRASTRUCTURE

Harbour, *nerus*, jetties and boatbuilding.

9. FISHING FLEET

Thirteen mechanized boats, seventeen trolling boats and seven *bokkuras*.

10. FISHING SEASON

May to December. Peak season May to July.

11. TOTAL POWER GENERATION : 17 kwh

12. TOTAL FRESH WATER STORAGE : 74 kl

MAIN FEATURES

The main occupation of people in the island is collecting sea cucumber. Pole-and-line fishing for tuna and bottom-line fishing for reef fish are also carried out. Several women are engaged in collecting sea shells. Electricity is generated by one community-owned and five privately-owned generators. Fresh water is stored in privately-owned tanks. Food grains like *bimbi*, *kudhibaiv* and *zuvaari* are also grown on the island. One organization looks after village development matters. General provision shops offer credit facilities.

CURRENT PROBLEMS

1. Irregular collection facilities for fish catch.
2. Inadequate fuel supplies.
3. Inadequate health care facilities and shortage of medicines.
4. Shallow harbour.
5. Poor condition of jetties.

ISLAND : Naalaafushi
ATOLL : Meemu
ISLAND CHIEF : Ali Ibrahim

1. POPULATION

(Above 15 yrs)	Male	131	(Below 15 yrs)	Male	: 80
	Female	90		Female	: 77

Average Household : 7/8

2. OCCUPATIONS

Fishing, carpentry, masonry and collecting sea cucumber.

3. AVAILABLE SKILLS

Blacksmiths and boatbuilders.

4. EDUCATION FACILITIES

One *makthab* for 54 children, with one male and one female teacher. Upto Grade 3.

5. HEALTH SERVICES

One family health worker and two midwives.

6. VEGETATION

Coconut, bananas, breadfruit and papaya.

7. FISH PRODUCTION

Tuna, reef fish and shark.

8. FISHERIES INFRASTRUCTURE

Harbour, *neru*, jetty and boatbuilders.

9. FISHING FLEET

Six mechanized boats, three trolling boats and four *bokkuras*.

10. FISHING SEASON

May to December. Peak season May to August.

11. TOTAL POWER GENERATION : 5 kwh

12. TOTAL FRESH WATER STORAGE : 15.2 kl

MAIN FEATURES

Fishing is the main occupation of the islanders. Electricity is generated by a community-owned generator. Rain water is collected in community-owned tanks. A general provision store caters to the needs of the community. One organization looks after development problems.

CURRENT PROBLEMS

1. Lack of firewood.
2. Lack of fuel.
3. No collection facilities for fish catch.
4. Soil erosion.

ISLAND : Muli
ATOLL : Meemu
ISLAND CHIEF : Abdul Azeez Moosa

1. POPULATION

(Above 15 yrs) Male : 189 (Below 15 yrs) Male : 145
Female : 158 Female : 137

Average Household : 7

2. OCCUPATIONS

Fishing, government service, carpentry, boatbuilding, blacksmith and engine repair mechanics.

3. AVAILABLE SKILLS

Boatbuilders, blacksmiths, engine mechanics, fishermen and civil servants.

4. EDUCATION FACILITIES

One atoll education centre for 14 children with one male and three female teachers. Four *kiyavaages* for children.

5. HEALTH SERVICES

Regional hospital, family health worker, three midwives, three traditional healers and three *fandiveriya*.

6. VEGETATION

Coconut, breadfruit, bananas, mango, papaya, guava, wood apple, lime, chillies, cabbage, brinjal, maize and millet.

7. FISH PRODUCTION

Pole and line fishing for tuna

8. FISHERIES INFRASTRUCTURE

Nerus, jetties, engine repair facilities and boatbuilders.

9. FISHING FLEET

Seven mechanized boats, five *vadhu dhonis*, three *bokkuras* and one diesel launch.

10. FISHING SEASON

May, November to December.

ii. TOTAL POWER GENERATION : 22 kwh

12. TOTAL FRESH WATER STORAGE : 22 kl

MAIN FEATURES

Muli is the capital of Meemu Atoll. The main occupation of the islanders is fishing. Muli has a fish processing centre run by the STO and employs local labour. Electricity is generated by both privately-owned and government-owned generators. Fresh water is stored in community-owned tanks as well as household tanks. Besides a community-owned provision store, there are others privately-owned. Most offer credit facilities. Land for cultivation has been allotted to a few individuals as well as to a Women's Development Committee. One organization looks after village development matters.

CURRENT PROBLEMS

1. Lack of firewood.
2. Poor condition of jetties.
3. Insufficient power generation.
4. Lack of burial space.
5. Lack of accommodation for visitors to the island.

ISLAND Mulah
ATOLL : Meemu
ISLAND CHIEF Ibrahim Moosa

1. **POPULATION**

(Above 15 yrs) Male : 276 (Below 15 yrs) Male : 241
Female 262 Female 251
Average Household 8

2. **OCCUPATIONS**

Fishing, farming, carpentry, masonry, boatbuilding and blacksmith.

3. **AVAILABLE SKILLS**

Fishermen, farmers, carpenters, boatbuilders and blacksmiths.

4. **EDUCATION FACILITIES**

One *madraasa* for 232 children with one male and one female teacher. Four *kiyavaages* for 133 children. One male and eleven female teachers.

5. **HEALTH SERVICES**

One family health worker, four traditional healers, four midwives and one performer of circumcision.

6. **VEGETATION**

Coconut, bananas, papaya, guava, pumpkin, chillies, betel, sweet potato, brinjal, *thora* and breadfruit.

7. **FISH PRODUCTION**

Tuna, reef fish, sea cucumber and lobster

8. **FISHERIES INFRASTRUCTURE**

Harbours, *nerus*, jetty, boatbuilders, engine service centre and boat hauling devices.

9. **FISHING FLEET**

Nine mechanized boats, six trolling boats, six *bokkuras* and one fibreglass boat.

10. **FISHING SEASON**

February and from May to August.

11. **TOTAL POWER GENERATION** 12 kwh

12. **TOTAL FRESH WATER STORAGE** : 36.8 kl

MAIN FEATURES

The main occupation is fishing. Farming is practised to some extent. Fresh water is stored in community-owned and private tanks. Electricity is generated by privately-owned generators. One club looks after island development matters. A women's committee is active in income-generating activities.

CURRENT PROBLEMS

1. Insufficient collection facility for fish catch.
2. Inadequate public toilet facilities.
3. Inadequate power generation.
4. Poor condition of jetty.
5. Inability to increase the fishing fleet.

ISLAND : Veyvah
ATOLL : Meemu
ISLAND CHIEF : Ahmed Isaag

1. POPULATION

(Above 15 yrs) Male : 66 (Below 15 yrs) Male : 55
Female : 58 Female : 36

Average Household : 4/5

2. OCCUPATIONS

Carpentry, masonry, boatbuilding, fishing and mat-weaving.

3. AVAILABLE SKILLS

Boatbuilders, carpenters, blacksmiths and mat-weavers.

4. EDUCATION FACILITIES

One *makthab* for thirty children with one male teacher. One *kiyavaage* for thirty children.

5. HEALTH SERVICES

One family health worker, one midwife and two traditional healers.

6. VEGETATION

Coconut, breadfruit, bananas, papaya, pumpkin and chillies.

7. FISH PRODUCTION

Tuna and reef fish.

8. FISHERIES INFRASTRUCTURE

Harbour, *nerus*, jetty and boatbuilders.

9. FISHING FLEET

One mechanized boat, six trolling boats and three *bokkuras*.

10. FISHING SEASON

May to December. Peak season May to August.

11. TOTAL POWER GENERATION : 6 kwh

12. TOTAL FRESH WATER STORAGE : 1.3 kl

MAIN FEATURES

The main occupation of the islanders is fishing. Electricity is generated by a community-owned generator as well as privately-owned household generators. The island has two storage tanks for fresh water. One organization looks after village development matters.

CURRENT PROBLEMS

1. Insufficient drinking water storage.
2. Inadequate health care facilities.
3. Infestation of rats, bats and crows.
4. Shallow harbour.
5. Inadequate power generation.

ISLAND : Madifushi
ATOLL : Meeniu
ISLAND CHIEF : Ibrahim Ali

1. POPULATION

(Above 15 yrs) Male : 45 (Below 15 yrs) Male : 32
Female : 48 Female : 46
Average Household : 8/9

2. OCCUPATIONS

Collection of sea cucumber, lobster fishing, carpentry, boatbuilding and fishing.

3. AVAILABLE SKILLS

Carpenters, boatbuilders and blacksmiths.

4. EDUCATION FACILITIES

One *makrhah* for 38 children with two female teachers.

5. HEALTH SERVICES

Family health worker, two midwives, two *fandithaveriva* and traditional healers.

6. VEGETATION

Coconut, bananas, breadfruit, papaya, tomato, pumpkin and drumstick.

7. FISH PRODUCTION

Tuna, reef fish, sea cucumber and lobster.

8. FISHERIES INFRASTRUCTURE

Harbours, *nerus*, jetty and boatbuilders.

9. FISHING FLEET

Two mechanized boats, one sailing *dhoni*, seven trolling boats and one *bokkura*.

10. FISHING SEASON

March to December. Peak season May to July.

11. TOTAL. POWER GENERATION 3 kwh (to be installed)

12. TOTAL FRESH WATER STORAGE : 39.7 kl

MAIN FEATURES

The main occupation of the islanders is fishing. Fresh water is collected in community- as well as privately-owned tanks. There is no electricity at present, though a community-owned generator is to be installed shortly. A women's committee looks into village development matters.

CURRENT PROBLEMS

1. Rat and bat infestation.
2. Shallow *neru*.
3. No power generation at present.
4. No boat hauling device.

ISLAND : Dhiggaru
ATOLL : Meemu
ISLAND CHIEF : Ismail Ibrahim

1. POPULATION

(Above 15 yrs)	Male	312	(Below 15 yrs)	Male	202
	Female	290		Female	190
Average Household		7/8			

2. OCCUPATIONS

Fishing, carpentry, boatbuilding and rope-making.

3. AVAILABLE SKILLS

Carpenters, boatbuilders and blacksmiths.

4. EDUCATION FACILITIES

One school for 219 children, with three male and one female teacher.

5. HEALTH SERVICES

One family health worker, one midwife and two local practitioners.

6. VEGETATION

Coconut, bananas, breadfruit, papaya, lemon, brinjal, pumpkin, fufoo, *thora* and *chickanda*.

7. FISH PRODUCTION

Tuna

8. FISHERIES INFRASTRUCTURE

One harbour, three *nerus*, one jetty, one set navigation lights, two boatbuilding facilities, one engine mechanic and one boat hauling device.

9. FISHING FLEET

Sixteen mechanized boats, seven *vadhu dhoni* and eleven *bokkuras*.

10. FISHING SEASON

December, January and May to July.

11. TOTAL POWER GENERATION : 17 kwh

12. TOTAL FRESH WATER STORAGE : 198 kl

MAIN FEATURES

Fishing is the main occupation of the islanders. Fresh water is stored in community tanks. Some households have their own tanks. Electricity is generated by community- and privately-owned generators. Retail shops offer credit facilities. An island club looks into the village development matters. A women's committee is also active in income-generating activities.

CURRENT PROBLEMS

1. Shallow harbour.
2. Insufficient space and staff in school.
3. Lack of central sewage system.
4. High population and overcrowding.
5. Inadequate health care services.

ISLAND Maduvvaree
ATOLL : Meemu
ISLAND CHIEF Dand Ahmed

1. POPULATION

(Above 15 yrs) Male	159	(Below 15 yrs) Male	109
Female :	163	Female :	114

Average Household 6/7

2. OCCUPATIONS

Carpentry, boatbuilding and blacksmiths.

3. AVAILABLE SKILLS

Carpenters, boatbuilding, blacksmiths and rope-makers.

4. EDUCATION FACILITIES

One *makthab* for 95 children with one male and one female teacher. Two *kiyavaages* for 67 children.

5. HEALTH SERVICES

One family health worker.

6. VEGETATION

Coconut, bananas and papaya.

7. FISH PRODUCTION

Tuna.

8. FISHERIES INFRASTRUCTURE

One harbour, two *nerus*, jetty and boatbuilders.

9. FISHING FLEET

Thirteen mechanized boats, seven trolling boats and six *bokkuras*.

10. FISHING SEASON

Peak season May to August.

11. TOTAL POWER GENERATION : Nil

12. TOTAL FRESH WATER STORAGE 90 kl

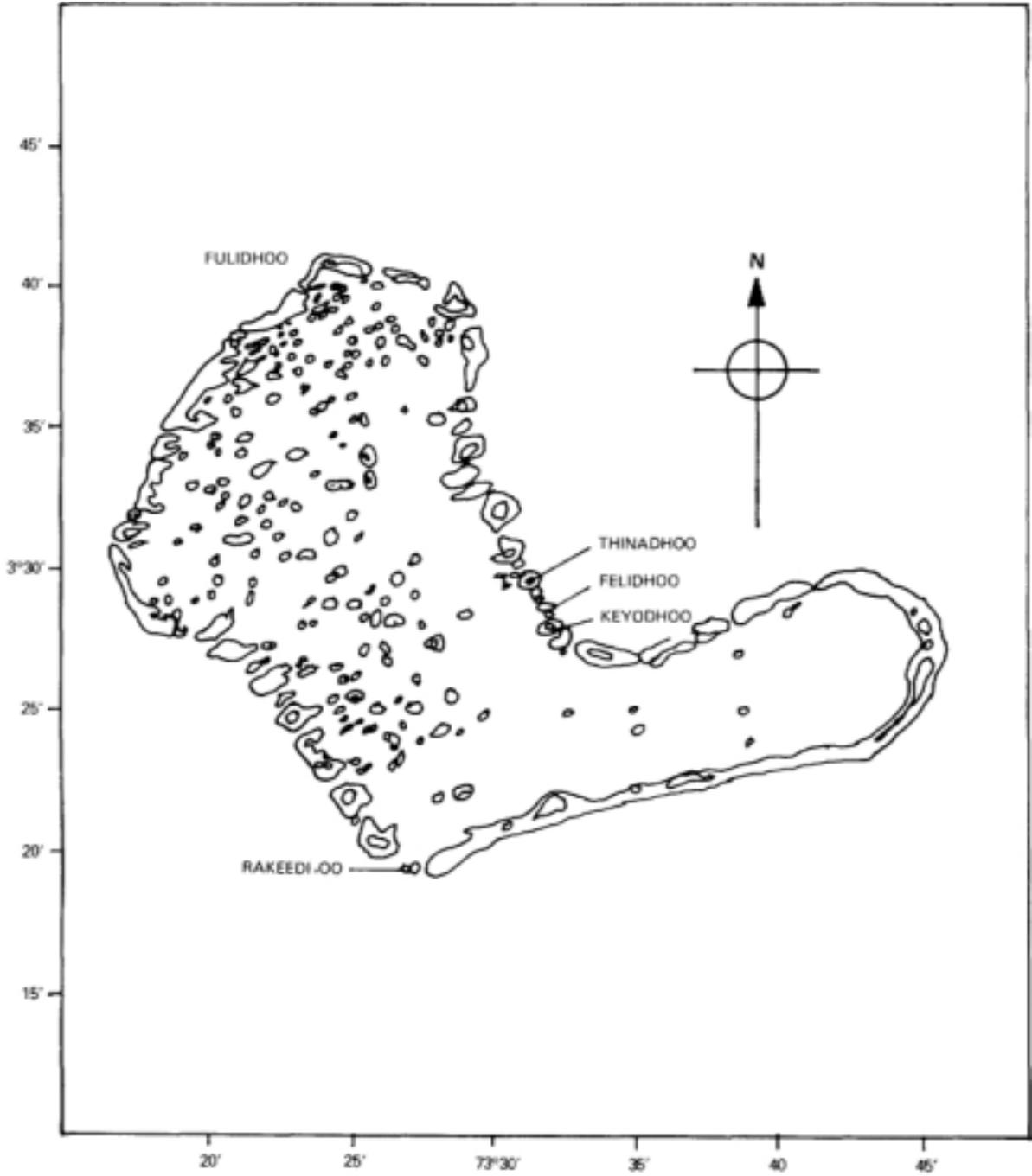
MAIN FEATURES

Pole and line fishing for tuna is the main occupation of the islanders. A few boats are used in the tourist resorts. Fresh water is stored in community-owned tanks. There is no electricity generated at present, though the community has obtained a loan to purchase a generator. Two retail provision stores offer credit facilities. A youth sports club looks into village development matters.

CURRENT PROBLEMS

1. Shallow harbour.
2. Lack of firewood.
3. No boat hauling devices.
4. Poor health care facilities.
5. No electric power.

VAAVU ATOLL



ISLAND Rakeedhoo
ATOLL : Vaavu
ISLAND CHIEF : Mohamed Adam

1. POPULATION

(Above 15 yrs) Male : 89 (Below 15 yrs) Male : 80
Female : 79 Female 76
Average Household 8/9

2. OCCUPATIONS

Fishing, boatbuilding, carpentry, rope-making, employment in government service and tourist resorts.

3. AVAILABLE SKILLS

One boatbuilder, one blacksmith, three carpenters.

4. EDUCATION FACILITIES

One *makthab* for sixty children with one male and one female teacher.

5. HEALTH SERVICES

One family health worker, one midwife, one traditional healer, one *fandithaveriya*.

6. VEGETATION

Coconut, bananas, breadfruit, papaya, lime, pumpkin, *thora*, brinjal, *dhandialuvi*, sweet potato.

7. FISH PRODUCTION

Pole-and-line for tuna and reef fishing.

8. FISHERIES INFRASTRUCTURE

Harbour, *neru*, jetty, boatbuilder, boat landing and mooring space.

9. FISHING FLEET

Six mechanized boats, nine *vadhu dhonis*, one *bokkura*.

10. FISHING SEASON

December to January and May to July

11. TOTAL POWER GENERATION 8 kwh

12. TOTAL FRESH WATER STORAGE 16.5 kl

MAIN FEATURES

The main occupation for people in this island is fishing. Other occupations include employment in government service and in tourist resorts. Electricity is generated by a privately-owned generator. Fresh water is stored in community-owned tanks. There are two general provision shops in the island. One organization looks after the village development matters.

CURRENT PROBLEMS

1. Lack of firewood.
2. No collection facility for fish catch sales.
3. Shortage of cultivable land.
4. Inadequate health care facilities.
5. Shallow harbour.

ISLAND Keyodhoo
ATOLL : Vaavu
ISLAND CHIEF : Adbul Sattar

1. POPULATION

(Above 15 yrs) Male 145 (Below 15 yrs) Male : 147
Female : 118 Female : 135
Average Household 7/8

2. OCCUPATIONS

Fishing, blacksmith, boatbuilding, carpentry.

3. AVAILABLE SKILLS

Four boatbuilders, six carpenters, two blacksmiths, 88 fishermen.

4. EDUCATION FACILITIES

One school for 132 children with two female teachers, presently upto grade 3.

5. HEALTH SERVICES

One family health worker, one midwife, five traditional healers, three circumcision specialists.

6. VEGETATION

Coconut, banana, breadfruit, papaya, lime, pumpkin, cucumber.

7. FISH PRODUCTION

Skipjack tuna by pole-and-line.

8. FISHERIES INFRASTRUCTURE

Two harbours, ten *nerus*, one jetty, four boatbuilders, boat landing and mooring facilities.

9. FISHING FLEET

Five mechanized boats, one sailing *dhoni*, one trolling boat, nine *bokkuras*.

10. FISHING SEASON

May to July and December to January.

11. TOTAL POWER GENERATION : 10 kwh

12. TOTAL FRESH WATER STORAGE : 172 kl

MAIN FEATURES

The main occupation of the people is fishing. Provision shops exist and all offer credit facilities. Electricity is generated by community-owned generators. Fresh water is stored in community-owned tanks. One organization looks after village development matters.

CURRENT PROBLEMS

1. Lack of medical facilities.
2. Insufficient power generation.
3. Poor condition of jetty and coral growth in harbour.
4. Lack of firewood.
5. Lack of public toilets.

ISLAND Felidhoo
ATOLL : Vaavu
ISLAND CHIEF Ibrahim Khaleel

1. POPULATION

(Above 15 yrs) Male	:	121	(Below 15 yrs) Male	:	106
Female	:	95	Female	:	184

Average Household : 7/8

2. OCCUPATIONS

Fishing, carpentry, employment in resorts.

3. AVAILABLE SKILLS

Carpenters, thatch-weavers, rope-makers.

4. EDUCATION FACILITIES

One *madrassa* for 92 children with three male and one female teacher.

5. HEALTH SERVICES

Three health centres, one midwife, one local healer.

6. VEGETATION

Breadfruit, mango, papaya, banana, coconut.

7. FISH PRODUCTION

Pole-and-line fishing.

8. FISHERIES INFRASTRUCTURE

Harbour, *neru*, jetties.

9. FISHING FLEET

Five mechanized boats, four trolling boats, one *bokkura*.

10. FISHING SEASON

March to December. Peak season May to July for tuna caught by pole-and-line.

11. TOTAL POWER GENERATION : Not available

12. TOTAL FRESH WATER STORAGE 64 kI

MAIN FEATURES

Felidhoo is the capital island of Vaavu atoll. Most people in the island are employed in government service or the tourist resorts. Some fishing is conducted by the elders of the island. Fresh water is stored in community-owned tanks. Electricity is generated by privately-owned generators. There are five provision shops and most offer credit facilities. There are two clubs in the island which look after village development matters. A women's committee is active in matters concerning income generation for women.

CURRENT PROBLEMS

1. Shallow harbour.
2. Lack of power generation.
3. Shortage of land.
4. Drinking water.
5. Sewage disposal.

Appendix III

GLOSSARY

<i>bokkura</i>	=	rowing boat
<i>chickanda</i>	=	snake gourd
<i>dhandia/uvi</i>	=	cassava
<i>dhoni</i>	=	traditional boat
<i>fufoo</i>	=	wax/white gourd
<i>fandithaveriya</i>	=	one type of traditional healer
<i>kiyavaage</i>	=	traditional school based at home-level where Arabic is taught (read & write)
<i>midhili</i>	=	Indian almond
<i>makthab</i>	=	primary school level
<i>macraasa</i>	=	primary school
<i>neru</i>	=	entrance passage to the inner lagoon
<i>thora</i>	=	bitter gourd
<i>vadhu dhoni</i>	=	trolling boat

Appendix IV
QUESTIONNAIRES

1. IDENTIFICATION

1. Serial number of questionnaire : _____
 2. Atoll/Island : _____ Code : _____

2. RELIGIOUS INFRASTRUCTURES

Sl. No.	MOSQUE (if for men)	Financed by			Age of the unit (months)	Area of the unit
		G	P	C		
1						
2						
3						
4						
5						
6						
7						

* 1. G : Government 2. Private 3. C. Community;
 Circle the appropriate code

Sl. No.	MOSQUE (if for women)	Financed by			Age of the unit (months)	Area of the unit
		G	P	C		
1						
2						
3						
4						
5						
6						
7						

Sl. No.	ZIYAARATH	Important information about the place
1		
2		
3		
4		

3. HEALTH SERVICES

Do you have the following?	Yes	No	No.	Persons engaged work	
				Males	Females
1. Health centre	1	2			
2. Family health worker	1	2			
3. Midwife	1	2			
4. Fandhaveriya	1	2			
5. Local practitioners	1	2			
6. Person who performs circumcision	1	2			

* Circle the appropriate code

Ministry of Fisheries and Agriculture
 Male, Republic of Maldives

**SURVEY ON QUALITY OF LIFE OF FISHERFOLK
 ISLAND RESOURCES QUESTIONNAIRE PART-A**

4. EDUCATIONAL SERVICES

Sl. No.	Name	Students					Grades		Teachers		Year of Operation (months)
		M	F	G	P	C	Fr	To	M	F	
1											
2											
3											
4											
5											

Sl. No.	Name	Students					Grades		Teachers		Year of Operation (months)
		M	F	G	P	C	Fr	To	M	F	
1											
2											
3											
4											
5											

Sl. No.	Name	Financed by			Students		Teachers		Year of Operation (months)
		G	P	C	M	F	M	F	
1									
2									
3									
4									
5									
6									
7									
8									
9									

5. ASSETS

Sl. No.	SEA TRANSPORT	No. of vessels registered	No. of vessels registered	Sl. No.	WATER TANKS	Ownership	Capacity Litres
1	Mechanized dhoni			1			
2	Sailing dhoni			2			
3	Vadhu dhoni			3			
4	Baththeli			4			
5	Bokkura			5			
6	Others (specify in remarks)			6			
7				7			
8	Remarks :			8			
9				9			
10				10			

Confidentiality : The information collected in this inquiry is accorded confidential treatment and will not be used for legal purposes.

Control Information

1. Name of the enumerator : _____
 2. Position of enumerator : _____
 3. Name of respondent : _____
 4. Position of respondent : _____
 5. Date of interview : _____
 6. Length of interview : Hours : _____ Mins : _____

6. EXISTING CONDITIONS

	Places	Num*	Conditions*			Remarks
Neru		1	1	2	3	
		2	1	2	3	
		3	1	2	3	
Harbour		1	1	2	3	
		2	1	2	3	
		3	1	2	3	

* 1. Good 2. Satisfactory 3. Poor Circle appropriate code

Jetty	Number of jetties	Conditions *	Jetty No :	1	2	3
			No : 1	1	2	3
			No : 2	1	2	3
			No : 3	1	2	3
			No : 4	1	2	3

How old? months : [] []

Financed by
 (Circle appropriate code)
 1. Government
 2. Private
 3. Community
 4. Foreign financing

3. ELECTRICITY

Sl. No.	Ownership	Capacity (kwh)	Purchase cost (Rufiyaa)	Installation cost
1				
2				
3				
4				
5				

Remarks : _____

ISLAND RESOURCES QUESTIONNAIRE

GENERAL

PART-C

la| What are the main problems facing people on your island?

lb| How do you think the problems can be solved?

(2)