# Socio-Economic and Environmental Living Conditions Among Fishermen's Families 

——Akune and Nomaike Fisheries Cooperative Associations-

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#### Abstract

This is a summarized survey to compare socio-economic and environmental living conditions among two groups of Japanese fishermen, living in places classified as urban and rural, respectively.

Also considered are some typical aspects of family education and mothers' interest in studies.


## Introduction

The purpose of this survey is to compare the socio-economic and environmental living conditions in two groups of fishermen's families belonging to the Akune Fisheries Cooperative Association and the Nomaike Fisheries Association. It includes results about family education and mothers' interest in studies.

The work is presented as follows: socio-economic conditions; environmental living conditions; family education; and mother's interest in studies. The data were collected by written questionnaire among fishermen's wives in June, 1980.
Before proceeding to the results, we should briefly note some concepts used in this paper. The socio-economic conditions of fishermen's families take into account the composition of family members and their job status, related to economic classifications (other jobs, part time jobs, number of sources of income, boat size, etc.) and the monthly income. Also taken into account were the number of rooms at home, home ownership, the management of husbands income by wives, the house keeping account book, savings, purpose of savings, etc. The environmental living conditions take into account the home facilities and sanitary conditions that fishermen have, related to the classification of rural or urban area where fishermen live. Family education was considered, according to mothers' cultural levels determined by interview with questions such as who is the teacher at home? what do you think family education is? etc. The mothers' interest in studies and in other things was also considered.

## Results

## Socio-Economic Conditions:

Table 1 shows the number of family members, family working members, boat size

[^0]in tons, jobs other than fishery, jobs of working wives, and total monthly income from the Akune and Nomaike samples.

We could say that the number of family members in Akune ( 126 total in 24 families) as well as the number of family working members ( $36 \%$ with working wives) is higher than in Nomaike (99 in 25 families).

Akune fishermen can engage in "other jobs" themselves, at the same time as in fishing (for example, agricultural jobs were pursued by $21 \%$ of the Akune sample, and part time work or family business in 2 cases. The size of boats is varied, though middle size boats abound in both places. There is no direct relation between monthly income and size of boat, even when the general tendency is a major size of boat leading to major income.

In detail, Nomaike's incomes are higher, even though Akune has a greater number of working wives. The Nomaike Fisheries Cooperative Association specializes expen-

Table 1. Socio-Economic Conditions of Fishermen's Families at Akune and Nomaike, 1980 I.
Akune

| Question- <br> naire <br> number | Number <br> of family <br> members | Family <br> working <br> members | Boat size <br> in tons | Jobs other <br> than fishery | Jobs of <br> working <br> wives | Total monthly <br> income in yen |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5 | 2 | More than 10 | - | Fishery | 150,000 |
| 2 | 4 | 1 | More than 10 | - | - | More than 300,000 |
| 3 | 7 | 1 | More than 10 | - | - | 200,000 |
| 4 | - | - | - | - | - | - |
| 5 | 6 | 2 | - | - | Part time | 150,000 |
| 6 | 3 | 1 | $1-3$ | - | - | 150,000 |
| 7 | 4 | 1 | $3-5$ | - | - | 150,000 |
| 8 | 6 | 2 | $3-5$ | - | Beauty salon | 200,000 |
| 9 | 4 | 1 | - | - | - | - |
| 10 | 4 | 1 | $3-5$ | Service | - | 200,000 |
| 11 | 5 | 2 | $3-5$ | - | Fishery | 200,000 |
| 12 | 9 | 2 | $3-5$ | Agriculture | Agriculture | 200,000 |
| 13 | 7 | 1 | $3-5$ | - | Agriculture | - |
| 14 | 6 | 2 | $3-5$ | Agriculture | Agriculture | 100,000 |
| 15 | - | - | - | Agriculture | - | - |
| 16 | 6 | 1 | More than 10 | - | - | More than 300,000 |
| 17 | 6 | 1 | $3-5$ | - | - | 200,000 |
| 18 | 4 | 1 | $3-5$ | - | - | 200,000 |
| 19 | 4 | - | $1-3$ | Trade | - | 150,000 |
| 20 | 7 | 1 | $3-5$ | - | - | More than 300,000 |
| 21 | 6 | 2 | $1-3$ | - | Service | More than 300,000 |
| 22 | 4 | 2 | $5-10$ | - | Beauty salon | More than 300,000 |
| 23 | 7 | 2 | $3-5$ | - | Agriculture | 200,000 |
| 24 | 6 | 1 | More than 10 | Agriculture | - | 250,000 |
| 25 | 5 | 1 | $1-3$ | - | - | 200,000 |
|  |  |  |  |  |  |  |
|  |  | - | - | - | - | - |

Table 1. Continued.
Nomarke

| Question- <br> naire <br> number | Number <br> of family <br> members | Family <br> working <br> members | Boat size <br> in tons | Jobs other <br> than fishery | Jobs of <br> working <br> wives | Total monthly <br> income in yen |
| :---: | :---: | :---: | :---: | :---: | :---: | :--- |
| 26 | 4 | 1 | $5-10$ | - | - | 250,000 |
| 27 | 6 | 1 | More than 10 | - | - | More than 300,000 |
| 28 | 2 | 1 | $1-3$ | - | - | 250,000 |
| 29 | 5 | 1 | $3-5$ | - | - | 250,000 |
| 30 | 4 | 1 | - | - | - | 150,000 |
| 31 | 5 | 1 | $3-5$ | - | - | More than 300,000 |
| 32 | 6 | 1 | $3-5$ | - | - | 250,000 |
| 33 | 5 | 2 | $3-5$ | - | - | 300,000 |
| 34 | 3 | 1 | - | - | - | - |
| 35 | - | - | More than 10 | - | - | - |
| 36 | 4 | 1 | $3-5$ | - | - | 250,000 |
| 37 | 4 | 3 | $5-10$ | - | Fishery | 150,000 |
| 38 | 5 | 1 | $3-5$ | - | - | More than 300,000 |
| 39 | 3 | 1 | - | - | - | 150,000 |
| 40 | 2 | 1 | $1-3$ | - | - | 100,000 |
| 41 | - | - | - | - | - | 100,000 |
| 42 | 5 | 1 | $1-3$ | - | - | 200,000 |
| 43 | 4 | 4 | $1-3$ | - | - | More than 300,000 |
| 44 | 3 | 1 | $3-5$ | - | - | 150,000 |
| 45 | 7 | 2 | More than 10 | - | - | 200,000 |
| 46 | 6 | 1 | $3-5$ | - | - | 250,000 |
| 47 | 1 | 1 | $1-3$ | - | - | 150,000 |
| 48 | 3 | 1 | $3-5$ | - | - | 250,000 |
| 49 | 5 | 1 | $1-3$ | - | - | 250,000 |
| 50 | 7 | 2 | $3-5$ | - | - | - |

sive fish which are appreciated in the consumer market, so the income level is quite high compared to their colleagues.

The large size of Akune's families (average of 5 persons per family sampled) includes grandparents. Due to a higher cost of living and extended family composition, Akune wives are obliged to supply monthly income. Moreover, Akune city offers more opportunity for women labour.

Fishermen's wives were trained in an improved and orderly management of their husbands' wages, through the so-called "house keeping account book" ("Kakeibo"). In this book is registered all information about household money management, allowing the wives to improve the living conditions of their respective families and to increase their savings.

Saving have become increasingly important to the fishermens' wives because to settle savings in the Fisheries Cooperative Association means access to loans at low
Akune

| Questionnaire number | Number of family members | Monthly income (Yen) | House keeping account book (Kakeibo) | Positive reason for using kakeibo | Negative reason for not using kakeibo | Savings | Savings settled | $\begin{aligned} & \text { Purpose } \\ & \text { of } \\ & \text { savings } \end{aligned}$ | Monthly loan payment (Yen) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5 | 150,000* | No |  | - | Yes | Bank | House | 40,000 |
| 2 | 4 | 300,000 | Yes | Planning | - | No | - | - | - |
| 3 | 7 | 200,000 | Yes | Custom | - | Yes | Coop. | Not spec. | 20,000 |
| 4 | - | - | - | - | - | - | - | - | - |
| 5 | 6 | 150,000 | No | - | - | Yes | Bank | Not spec. | 80,000 |
| 6 | 3 | 150,000 | No | - | Complicated | Yes | Coop. | Boat | 20,000 |
| 7 | 4 | 150,000 | Yes | Custom | - | Yes | Coop. | House | 40,000 |
| 8 | 6 | 200,000 | - | - | - | Yes | Coop. | Boat | 60,000 |
| 9 | 4 | Not spec. | No | - | No time for it | Yes | Coop. | Boat | 20,000 |
| 10 | 5 | 200,000 | No | - | Complicated | Yes | Coop. | Boat | 100,000* |
| 11 | 5 | 200,000 | Yes | Planning | - | Yes | Coop. | Boat | 80,000 |
| 12 | 9 | 200,000 | No | - | Complicated | Yes | Coop. | Boat | 20,000 |
| 13 | 7 | Other | No | - | - | Yes | Coop. | Boat | 100,000* |
| 14 | 6 | 100,000 | No | - | Complicated | Yes | Coop. | Boat | - |
| 15 | - | -* | - | - | - | Yes | Coop. | Boat | 100,000* |
| 16 | 6 | 300,000 | No | - | Complicated | Yes | Coop. | Boat | 100,000 |
| 17 | 6 | 200,000 | No | - | Complicated | Yes | Coop. | Boat | 70,000 |
| 18 | 4 | 200,000 | Yes | Custom | - | Yes | Coop. | Boat | 40,000 |
| 19 | 4 | 150,000 | Yes | Custom | - | Yes | Coop. | House | 20,000 |
| 20 | 7 | 300,000* | No | - | Complicated | Yes | Coop. | Boat | 60,000 |
| 21 | 6 | 300,000* | No | - | Complicated | No | - | - | - |
| 22 | 4 | 300,000* | Yes | Planning | - | Yes | Coop. | House | 100,000 |
| 23 | 7 | 200,000 | No | - | - | Yes | Coop. | Boat | 40,000 |
| 24 | 6 | 250,000 | No | - | Complicated | Yes | Coop. | Boat | 100,000* |
| 25 | 5 | 200,000 | No | - | Complicated | Yes | Coop. | Boat | 20,000 |

Table 2. Continued.
Nomaike

| Questionnaire number | Number of family members | Monthly income (Yen) | House keeping account book (Kakeibo) | Positive reason for using kakeibo | Negative reason for not using kakeibo | Savings | Savings settled | $\begin{aligned} & \text { Purpose } \\ & \text { of } \\ & \text { savings } \end{aligned}$ | Monthly loan payments (Yen) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Fisheries | House | - |
| 26 | 4 | 250,000 | No | - | Complicated | Yes | Coop. |  |  |
| 27 | 6 | 300,000* | Yes | Planning | - | Yes | ${ }^{\text {Coop. }}$ | Boat | 100,000** |
| 28 | Not spec. | 250,000 | Yes | Planning | - | Yes | Coop. | Boat | - |
| 29 | 5 | 250,000 | Yes | Planning | - | Yes | Coop. | House <br> Boat | 40,000 |
| 30 | 4 | 150,000 | No | - | - | Yes | Not spec. | Boat | 20,000 |
| 31 | 5 | 300,000* | Yes | Planning | - | Yes | Coop. | Boat | 100,000** |
| 32 | 6 | 250,000 | Yes | Planning | - | Yes | Bank-Coop. | Boat | 100,000** |
| 33 | 5 | 300,000 | Yes | Other | - | Yes | Coop. | Boat | 100,000** |
| 34 | 3 | Not spec. | Yes | Planning | - | Yes | Bank-Coop. | Boat | 100,000** |
| 35 | - | - | -. | - | - | - | - | - | - |
| 36 | 4 | 250,000 | No | - | Complicated | Yes | Coop. | Boat | 100,000** |
| 37 | 4 | 150,000 | No | - | Not needed | Yes | Coop. | Boat | 100,000** |
| 38 | 5 | 300,000* | Yes | Planning |  | Yes | Coop. | Boat | 60,000 |
| 39 | 3 | 150,000 | No | - | Complicated | No | - | - | - |
| 40 | 2 | 100,000 | No | - | Complicated | Yes | Coop. | Boat | 20,000 |
| 41 | - | 100,000 | No | - | Complicated | No | - | - | - |
| 42 | 5 | 200,000 | No | - | - | No | - | - | - |
| 43 | 4 | 300,000* | No | - | No time | Yes | Coop. | Boat | 80,000 |
| 44 | 3 | 150,000 | No | - | Complicated | Yes | Coop. families | Boat, edu cation | - |
| 45 | 7 | 200,000 | No | - | Complicated | Yes | Coop. | Boat | - |
| 46 | 6 | 250,000 | No | - | Complicated | Yes | Coop. | Boat | 40,000 |
| 47 | 1 | 150,000 | No | - | Complicated | Yes | Not spec. | - | - |
| 48 | 3 | 250,000 | No | - | - | Yes | Coop. | Boat | 60,000 |
| 49 | 5 | Not spec. | Yes | - | - | Yes | Bank-Coop. | Boat | 100,000** |
| 50 | 7 | 200,000 | Yes | Custom | -. | Yes | Coop. | Boat | 20,000 |

* over 300,000 yen $\quad * *_{\text {over }} 100,000$ yen
interest rates. Also, savings may be used for purchase of a new boat. The majority of families in this sample have savings in the Fisheries Cooperative Association mostly for the purpose of boat repairing and maintenance. There are also a few who save to obtain their own house. Related to monthly loan payments, families with high income have a tendency to have the highest monthly payments. The lowest rate is 20,000 yen ( 6 cases), while the highest is more than 100,000 yen. The "Kakeibo" form has been changed for easy management. But as we can observe in Table 2, its use is tending to disappear from fishing households. The only reason specified by wives is "it is complicated".

At Nomaike, there are 3 families who are paying 20,000 yen per month on loans and 7 who are paying more than 100,000 yen, though only one is paying more than $50 \%$ of monthly income. The reason for indebtness could be owing to the lack of high

Table 3. Socio-Economic Conditions of Fishermen's Families at Akune and Nomaike, 1980 III. Akune

| Questionnaire <br> number | Number of <br> family <br> members | Income <br> in yen | House owner | Rent (Yen) | Number of <br> rooms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5 | 150,000 | Yes | - | More than 4 |
| 2 | 4 | $300,000^{*}$ | No | $10,000-30,000$ | $2-3$ |
| 3 | 7 | 200,000 | No | $30,000-50,000$ | More than 4 |
| 4 | - | - | - | - | - |
| 5 | 6 | 150,000 | Yes | - | More than 4 |
| 6 | 3 | 150,000 | Yes | - | $2-3$ |
| 7 | 4 | 150,000 | Yes | - | More than 4 |
| 8 | 6 | 200,000 | Yes | - | More than 4 |
| 9 | 4 | - | Yes | - | $3-4$ |
| 10 | 5 | 200,000 | Yes | - | More than 4 |
| 11 | 5 | 250,000 | Yes | - | More than 4 |
| 12 | 9 | 200,000 | Relatives | - | - |
| 13 | 7 | Not spec. | Yes | - | - |
| 14 | 6 | 100,000 | Yes | - | $3-4$ |
| 15 | - | - | - | - | More than 4 |
| 16 | 6 | $300,000^{*}$ | Yes | - | More than 4 |
| 17 | 6 | 200,000 | Yes | - | $3-4$ |
| 18 | 4 | 200,000 | Yes | - | More than 4 |
| 19 | 4 | 150,000 | Yes | - | More than 4 |
| 20 | 7 | $300,000^{*}$ | Yes | - | More than 4 |
| 21 | 6 | $300,000^{*}$ | Yes | - | More than 4 |
| 22 | 4 | $300,000^{*}$ | Yes | - | More than 4 |
| 23 | 7 | 200,000 | Yes | - | More than 4 |
| 24 | 6 | 250,000 | Yes | - | More than 4 |
| 25 | 5 | 200,000 | Yes | - | More than 4 |
|  |  |  |  |  |  |

Table 3. Continued.
Nomaike

| Questionnaire <br> number | Number of <br> family <br> members | Income <br> in yen | House owner | Rent (Yen) | Number of <br> rooms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 26 | 4 | 250,000 | Yes | - | More than 4 |
| 27 | 6 | $300,000^{*}$ | Yes | - | More than 4 |
| 28 | - | 250,000 | Yes | - | $3-4$ |
| 29 | 5 | 250,000 | Yes | - | More than 4 |
| 30 | 4 | 150,000 | Yes | - | More than 4 |
| 31 | 5 | $300,000^{*}$ | Yes | - | $2-3$ |
| 32 | 6 | 250,000 | Yes | - | $2-3$ |
| 33 | 5 | 300,000 | Yes | - | More than 4 |
| 34 | 3 | - | Yes | - | More than 4 |
| 35 | - | - | Yes | - | - |
| 36 | 4 | 250,000 | Yes | - | More than 4 |
| 37 | 4 | 150,000 | Yes | - | $3-4$ |
| 38 | 5 | $300,000 *$ | Yes | - | More than 4 |
| 39 | 3 | 150,000 | Yes | - | More than 4 |
| 40 | 2 | 100,000 | Yes | - | More than 4 |
| 41 | - | 100,000 | Yes | - | $3-4$ |
| 42 | 5 | 200,000 | Yes | - | $2-3$ |
| 43 | 4 | $300,000 *$ | Yes | - | $3-4$ |
| 44 | 3 | 150,000 | Relatives | - | More than 4 |
| 45 | 7 | 200,000 | Yes | - | More than 4 |
| 46 | 6 | 250,000 | Yes | - | More than 4 |
| 47 | 1 | 150,000 | Yes | - | $3-4$ |
| 48 | 3 | 250,000 | Yes | - | $2-3$ |
| 49 | 5 | Not spec. | Yes | - | $3-4$ |
| 50 | 7 | 200,000 | Relatives | - | More than 4 |

* over 300,000 yen
schools in the community, so children are obliged to attend Kagoshima's high schools, which are expensive for fishermen's families (Table 2).

Almost all fishermen sampled own houses. A few live with relatives ( 1 at Akune and 2 at Nomaike) or rent the house ( 2 at Akune). Some of them are likely paying a house dividend. In detail, Akune fishermen with incomes between 100,000 and 200,000 yen are living in houses no larger than 3-4 rooms in 3 cases, while those who are living in bigger houses (more than 4 rooms) number 17 out of the total 24 cases. Nomaike fishermen with $5-6$ family members live in houses with $2-3$ rooms. But there are a larger number of small houses in Nomaike than in Akune.

A majority of households, even those with low income, are provided with T.V.'s, refrigerators, cars, and other technological electric goods and machines which make work easier at home (Table 3).

## Environmental Living Conditions:

At Akune, half of the families are using propane gas. The majority of the sampled houses are equipped with gas stoves, placed in the kitchen. A few families have a centralized water heater, and gas is utilized as the principal fuel.

At Nomaike, propane is generally used in the kitchen stoves, but the use of firewood for the bath tubs is far more common than Akune (Table 4).

Sanitary conditions for both groups are shown in Table 5. It is important to note that Nomaike as a rural group lacks a sewage system, but at Akune the conditions are just the same.

## Family Education:

To evaluate the mothers' educational level some data about family education was contained. For example, question 1 was, what is family education for you?" The

Table 4 Socio-Economic Conditions of Fishermen's Families Akune and Nomaike, 1980 IV. Akune

| Questionnaire <br> number | Income <br> (Yen) | Kitchen <br> fuel | Stove | Hot water placed | Ofuro fuel |
| :---: | :---: | :--- | :--- | :--- | :--- |
| 1 | 150,000 | Propane gas | Yes | Bathroom ("Ofuro") | Stove |
| 2 | $300,000^{*}$ | City gas | Yes | Kitchen | Stove |
| 3 | 200,000 | City gas | No | Kitchen | None |
| 4 | - | - | - | - | - |
| 5 | 150,000 | City gas | - | - | Gas |
| 6 | 150,000 | City gas | Yes | Kitchen | None |
| 7 | 150,000 | City gas | Yes | Kitchen | Gas |
| 8 | 200,000 | Propane gas | No | Bathroom ("Ofuro") | Gas |
| 9 | - | City gas | - | Kitchen-"Ofuro") | Gas |
| 10 | 200,000 | City gas | Yes | Kitchen-"Ofuro"" | Gas |
|  |  |  | Toilett. |  |  |
| 11 | 200,000 | Propane gas | Yes | Kitchen | Gas |
| 12 | 200,000 | Propane gas | Yes | Kitchen | Gas |
| 13 | Not spec. | Propane gas | Yes | Kitchen | Firewood |
| 14 | 100,000 | Propane gas | No | - | Firewood |
| 15 | - | Propane gas | Yes | Kitchen-"Ofuro"' | Firewood |
| 16 | $300,000^{*}$ | City gas | Yes | Kitchen | Gas |
| 17 | 200,000 | City gas | Yes | Kitchen | Gas |
| 18 | 200,000 | City gas | Yes | Kitchen-"Ofuro"' | Gas |
| 19 | 150,000 | Propane gas | No | "Ofuro" | Gas |
| 20 | $300,000^{*}$ | Propane gas | Yes | Kitchen | Firewood |
| 21 | $300,000^{*}$ | City gas | - | Kitchen | Gas |
| 22 | $300,000^{*}$ | Propane gas | Yes | Kitchen-"Ofuro" | Gas |
| 23 | 200,000 | Propane gas | Yes | Kitchen | Firewood |
| 24 | 250,000 | Propane gas | Yes | Kitchen | Gas |
| 25 | 200,000 | City gas | Yes | Kitchen | Gas |

Table 4. Continued.
Nomaike

| Questionnaire <br> number | Income <br> (Yen) | Kitchen <br> fuel | Stove | Hot water placed | Ofuro fuel |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 26 | 250,000 | Propane gas | Yes | Bathroom | Gas |
| 27 | $300,000^{*}$ | Propane gas | Yes | Kitchen | Firewood |
| 28 | 250,000 | Propane gas | Yes | Kitchen-bathroom | Gas |
| 29 | 250,000 | Propane gas | Yes | Kitchen-bathroom | Gas |
| 30 | 150,000 | Propane gas | No | - | Firewood |
| 31 | 300,000 | Propane gas | Yes | Kitchen | Firewood |
| 32 | 250,000 | Propane gas | No | - | Firewood |
| 33 | 300,000 | Propane gas | No | Kitchen-bathroom | Sun heater |
| 34 | - | Propane gas | Yes | Kitchen | Firewood |
| 35 | - | - | - | - | - |
| 36 | 250,000 | Propane gas | Yes | Kitchen-bathroom | Gas |
| 37 | 150,000 | Propane gas | Yes | Kitchen | Firewood |
| 38 | $300,000^{*}$ | Propane gas | Yes | Kitchen-bathroom | Gas |
| 39 | 150,000 | Propane gas | Yes | Kitchen | Firewood |
| 40 | 100,000 | Propane gas | Yes | Kitchen | Firewood |
| 41 | 100,000 | Propane gas | Yes | Kitchen-bathroom | Gas |
| 42 | 200,000 | Propane gas | - | - | Gas |
| 43 | $300,000^{*}$ | Propane gas | Yes | Kitchen | Firewood |
| 44 | 150,000 | Propane gas | Yes | - | Gas |
| 45 | 200,000 | Propane gas | Yes | Kitchen-bathroom | Gas |
| 46 | 250,000 | Propane gas | - | Kitchen | Firewood |
| 47 | 150,000 | Propane gas | - | - | Gas |
| 48 | 250,000 | Propane gas | Yes | Kitchen-bathroom | Gas |
| 49 | Not spec. | Propane gas | Yes | - | Firewood |
| 50 | 200,000 | Propane gas | No | Bathroom | Firewood |
|  |  |  |  |  |  |
|  | 300,000 yen |  |  |  |  |

most frequent answer was "talking about life's daily problems". When the mothers had young children, the most frequent answer was "playing together."

Question 2, about the necessity of family education, elicited general agreement on "family education is necessary"; but many also said "it is the task of both parents and schools".

The majority answered question 3 , "who is actually doing it at home?", by saying "both parents", but among those at Akune the number answering "mother only" was also high because of the high incidence of heads of households being busy earning a livelihood.

Question 4 was about the matters most usually consulted on by children, and it was directly related to the children's ages; thus elementary and middle school children most frequently consulted about "human relations".

Mem. Fac. Fish., Kagoshima Univ. Vol. 30 (1981)
Table 5. Environmental Living Conditions of Fishermen's Families at Akune and Nomaike, 1980.
Akune

| $\begin{aligned} & \text { Questionnaire } \\ & \text { number } \end{aligned}$ | Sewage system | Take out frequency | Garbage | Garbage take out | Sewage take out |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Take out | Once a month | Burn at home | Unburned | All |
| 2 | Running-water | - | - | All | - |
| 3 | Take out | Once a month | - | All | All |
| 4 | Take out | Once a month | - | All | All |
| 5 | Take out | Once a month | - | All | All |
| 6 | Take out | Once a month | - | All | All |
| 7 | Take out | Twice a month | - | All | All |
| 8 | Take out | Twice a month | - | All | All |
| 9 | Take out | Once a month | - | All | All |
| 10 | Take out | Once a month | - | All | All |
| 11 | Take out | Twice a month | Burn at home | Unburned | No (fertilizer) |
| 12 | Take out | Once every 2 months | Burn at home | Unburned | No (fertilizer, once a year) |
| 13 | Take out | Once a month | Burn at home | Unburned | No (fertilizer) |
| 14 | Not spec. | - | Burn at home | Unburned | All |
| 15 | Take out | Once a month | No | All | All |
| 16 | Take out | Once a month | No | All | All |
| 17 | Take out | Once a month | No | All | All |
| 18 | Take out | Once a month | Burn at home | Unburned | All |
| 19 | Take out | Once every 2 months | Burn | Unburned | Fertilizer |
| 20 | Take out | Once a month | No | All | All |
| 21 | Take out | Once a month | No | All | All |
| 22 | Take out | Once every 2 months | No | All | All |
| 23 | Take out | Once every 2 months | - | All | All |
| 24 | Take out | Once every 2 months | No | All | All |

Question 5 utilized two categories to evaluate the relationship between children's questions and mothers' understanding. "Usually" was given in case of mothers' always understanding and "generally" in case of mothers' not always understanding. Mothers most frequently answered "usually", though mothers with middle school formal education answered "generally" more often than mothers who had a high school formal education.

Question 6 was about the interest they have in study in helping children, and in what matters are most necessary for it. It is important to note that mothers feel the necessity of raising their general culture, but many, especially at Akune, want to study enough to help children in their daily tasks and school examinations. One

Table 5. Continued.
Nomaike

| Questionnaire number | Sewage system | Ttake out frequency | Gabarage | Gabarage take out | Sewage take out |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | Running-water | - | Burn at home | Unburned | All |
| 26 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 27 | Take out | Once every month | Burn at home | Unburned | All |
| 28 | Take out | Twice a month | Burn at home | Unburned | All |
| 29 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 30 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 31 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 32 | Running-water | - | - | - | - |
| 33 | Take out | Once a month | Burn at home | Unburned | All |
| 34 | - | - | - | - |  |
| 35 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 36 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 37 | Take out | Once a month | Burn at home | Unburned | All |
| 38 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 39 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 40 | Take out | Once a month | Burn at home | Unburned | All |
| 41 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 42 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 43 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 44 | Take out | Twice a month | Burn at home | Unburned | All |
| 45 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 46 | Take out | - | Burn at home | Unburned | All |
| 47 | Take out | Once every 2 months | Burn at home | Unburned | All |
| 48 | Take out | Once a month | Burn at home | Unburned | All |
| 49 | Take out | Once every 2 months | Burn at home | Unburned | All |

of the reasons is that Japanese school compulsory studies are very hard and there is an emphasis on being able to enter later in good and prestigious schools. The mothers interviewed were divided between having had middle school and high school education (Tables 6 and 7).

## Mothers' Interest in Studies:

As Table 8 shows, those mothers who live in the most rural zone usually are studying general culture or cooking. Also noticeable at Nomaike is more interest in almost all the proposed matters. One of the important reasons given for "no study" and "even interested, don't do so" is due to lack of time for it. This was most frequently answered by Akune mothers.

It is also important to note that mothers are interested in learning about their husbands' work, since they have an important role in helping husbands in fisheries work.
Akune

| Questionnaire <br> number | Children's <br> ages | Subjects of family <br> education | Necessity | Teacher <br> at home | Subjects of Consul- <br> tation by children | Mothers' understanding |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | $7,2,6$ | Talk about life | Necessary | Both parents | Tasks and school | Usually understands |
| 2 | 7,2 | Talk about life | Necessary | Both parents | Tasks and school | Usually understands |
| 3 | $17,15,13,12$ | Talk about life | Necessary | Mother | Social and general <br> culture | Generally understands |
| 4 |  |  |  | - | - | - |
| 5 | $16,12,15,10$ | Talk about life | Necessary* | Both parents | Human relations | Usually understands |
| 6 | 16 | Talk about life | Necessary | Both parents | Tasks and school | Generally understands |
| 7 | 15,13 | Talk about life | Necessary | Mother | Tasks and school | Generally understands |
| 8 | 11,9 | Talk about life | Necessary | Both parents | Tasks and school | Generally understands |
| 9 | 17 | Talk about life | Necessary* | Both parents | No consulting | No understanding |
| 10 | $24,22,14$ | Talk about life | Necessary | Both parents | Tasks and school | Usually understands |
| 11 | $21,17,14$ | Talk about life | Necessary | Both parents | Tasks and shcool | Usually understands |
| 12 | $15,13,12,10,9$ | Talk about life | Necessary | Mother | Tasks and school | Usually understands |
| 13 | $14,13,9,11$ | Talk about life | Necessary | Both parents | Tasks and school | No understanding |
| 14 | $11,9,7$ | Talk about life | Necessary | Mother | Tasks and school | Usually understands |
| 15 |  | Talk about life | Necessary | Both parents | Tasks and school | Usually understands |
| 16 | $20,17,12$ | Talk about life | Necessary | Both parents | Tasks and school | Usually understands |
| 17 | $22,11,18,15$ | Talk about life | Necessary* | Both parents | Tasks and school | Generally understands |
| 18 |  | Talk about life | Necessary | Both parents | Tasks and school | Generally understands |
| 19 | 17,14 | Talk about life | Necessary | Both parents | Human relations | Usually understands |
| 20 | $18,10,15,13$ | Talk about life | Necessary* | Both parents | Tasks and school | No understanding |
| 21 | $18,10,12$ | Talk about life | Necessary | Both parents | Human relations | Generally understands |
| 22 | 14,10 | Talk about life | Necessary | Both parents | Social and general | Usually understands |
| 23 | $11,19,12$ |  | Help them in | Necessary | Mother | Tasks and school |

Table 6. Continued.

| Questionnaire number | Children's ages | Subjects of family education | Necessity | Teacher at home | Subjects of Consultation by children |  | Mothers' understanding |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 26 | 3,1 | Play together | Necessary | Both parents | - |  | - |
| 27 | 17, 15, 12 | Talk about life | Necessary | Both parents | Human relations | ! | Usually understands |
| 28 |  | Talk about life | Necessary* | Both parents | Tasks and school | ; | Usually understands |
| 29 | 11, 13 | Talk about life | Necessary* | Both parents | Tasks and school |  | Usually understands |
| 30 | 14 | Talk about life | Necessary* | Both parents | No consulting |  | No understanding |
| 31 | 22, 25 | Talk about life | Necessary | Both parents | Human relations |  | Usually understands |
| 32 | 8, 21, 24 | Talk about life | Necessary | Mother | Human relations |  | Generally understands |
| 33 | 21, 19, 16 | Talk about life | Necessary | Both parents | Social and general culture |  | Usually understands |
| 34 | 16 | Talk about life | Necessary | Both parents | Human relations |  | Usually understands |
| 35 | - | Talk about life | Necessary* | Both parents | Human relations |  | Generally understands |
| 36 | 16, 14 | Talk about life | Necessary | Both parents | Tasks and school |  | Usually understands |
| 37 | 26, 23 | Talk about life | - | - | - |  | - |
| 38 | 17, 17, 14 | Talk about life | Necessary | Both parents | Tasks and school |  | Generally understands |
| 39 | - | - | - | - | - |  | - |
| 40 | - | - | - | - | - |  | - |
| 41 | - | - | - | - | - |  | - - |
| 42 | 19, 17, 14 | Talk about life | Necessary* | Both parents | Tasks and school |  | Generally understands |
| 43 | 25, 19 | Talk about life | Necessary | Both parents | Human relations |  | Usually understands |
| 44 | - | Talk about life | Necessary | Both parents | Social and general culture | . | Generally understands |
| 45 | 17, 14, 12 | Talk about life | Necessary | Both parents | Human relations | . | Generally understands |
| 46 | 16, 11, 14 | Talk about life | Necessary | Both parents | Tasks and school |  | Generally understands |
| 47 | - | - | Necessary | Mother | Human relations |  | Usually understands |
| 48 | 12 | Talk about life | Necessary | Both parents | Tasks and school | - | Generally understands |
| 49 | 12, 3 | Talk about life | Necessary | Both parents | Tasks and school |  | Usually understands |
| 50 | 12, 3 | Talk about life | Necessary | Both parents | Tasks and school |  | Usually understands |
| 50 | Less than 1 year old | Play together | Necessary | Both parents | Other | : | Other |

* It was also expressed that family education was the task of both parents and school.

Table 7. Study of Matters Necessary to Help Children.
Akune Nomaike

| Question- <br> naire | Matters <br> number |  | Mother's <br> formal <br> education | Question- <br> naire <br> number |
| :--- | :--- | :--- | :--- | :--- |
| 1 | General culture | Other | Matters | Mother's <br> formal <br> education |
| 2 | Same contents at school | High school | 27 | General culture |

Table 8. Mothers' Interest in Studies at Akune and Nomaike, 1980.
Akune

| Questionnaire number | Mother's age | Study by yourself | Matters | Interest in studies | Specific matter* |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 31 | Yes | Cooking | Yes | 1-2-3-5-6-7 |
| 2 | - | - | - | Yes | 1-2-3-4-5-6-7-8-9 |
| 3 | 47 | Even if interested, no time |  | Yes | 1-4-5-6 |
| 4 | - | - | - | - | - |
| 5 | 44 | Even if interested, no time |  | - | - |
| 6 | 48 | No | - | - | - |
| 7 | 41 | No | - | - | - |
| 8 | 36 | Even if interested, no time | - | - | - |
| 9 | 52 | No | - | Yes | 1-5 |
| 10 | 46 | No | - | No | - |
| 11 | 46 | Yes | General culture | Yes | 1-9 |
| 12 | 42 | Even if interested, no time | - | Yes | 1-3-6 |
| 13 | 39 | No | - | No | - |
| 14 | 36 | No | - | No | - |
| 15 | - | No | - | No | - |
| 16 | 45 | - | - | Yes | 7 |
| 17 | 46 | No | - | No | - |
| 18 | 42 | No | - | No | - |
| 19 | 41 | No | - | Yes | - |
| 20 | 39 | No | - | Yes | - |
| 21 | 40 | No | - | Yes | - |
| 22 | 36 | No | - | - | - |
| 23 | 44 | No | - | Yes | - |
| 24 | 32 | Yes | Cooking | Yes | - |
| 25 | 41 | Even if interested, no time | - | - | - |

[^1]Mem. Fac. Fish., Kagoshima Univ. Vol. 30 (1981)
Table 8. Continued.
Nomaike

| Questionnaire number | Mother's age | Study by yourself | Matters | Interest in studies | Specific matter* |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 26 | 29 | No | - | Even if interested, no time | - |
| 27 | 47 | No | - | Yes | 1-2-3-4-5-6-7-8-9 |
| 28 | - | Yes | Cooking | Yes | 1-2-3-4-7-9 |
| 29 | 45 | Yes | General culture | Yes | 1-2-3-4-5-6-7 |
| 30 | 46 | No | - | No | - |
| 31 | 45 | Yes | Cooking | Yes | 1-2-3-4-5-6-7-8-9 |
| 32 | 52 | No | - | Even if interested, no time | - |
| 33 | 47 | Yes | General culture | Yes | 1-3-4-5-6-7-8-9 |
| 34 | 51 | Even if interested, no time | - | - | - |
| 35 | - | No | - | Yes | 1-6-3 |
| 36 | 43 | Even if interested, no time | - | - | - |
| 37 | 53 | No | - | Yes | 1-6 |
| 38 | 43 | No | - | Yes | 1-6-7 |
| 39 | 45 | No | - | - | - |
| 40 | 51 | - | - | Yes | 1-3-6 |
| 41 | - | Yes | Cooking | Yes | 1 |
| 42 | 41 | No | - | Yes | No spec. |
| 43 | 52 | No | - | No | - |
| 44 | 53 | - | - | - | - |
| 45 | 45 | No | - | Yes | 1-2-3-4-6-7 |
| 46 | 46 | Even if interested, no time | - | Yes | 3 |
| 47 | 68 | Yes | General culture | Yes | - |
| 48 | 40 | No | Cooking | Yes | 1-3 |
| 49 | 30 | Yes | Cooking | Yes | 1-2-3 |
| 50 | 29 | Yes | Cooking | Yes | - |

* Matters: the same as the previous page.


## Conclusions

Though it would seemed possible to demonstrate the differences between the two places as urban and rural areas in terms of sanitary conditions, in fact Akune, though classified as an urban zone, had environmental living conditions similar to Nomaike, a rural area.

The socio-economic conditions are enough to supply the basic necessities of the family members, and Akune wives can engage in different jobs more easily than Nomaike wives.

The mothers' educational level is enough to help children in scholarly tasks and guidance in their daily life. At the same time, mothers feel the lack of a good cultural background, and the desire for improvement in this aspect, especially among those who live in the most rural place (Nomaike).

## Acknowledgments

Acknowledgment is greatfully given to the Prefectural Federation of Fisheries Cooperative Associations, the Kagoshima Prefecture Department of Agriculture and Fisheries Development Office; the Akune and Nomaike Fisheries Cooperative Associations and to the fishermen's families, involved in this study, for all kinds of facilities and collaboration received.


[^0]:    * Laboratory of Fisheries Economics, Faculty of Fisheries, Kagoshima University.

[^1]:    *Matters: 1) Household affairs, cooking. 2) Leadership, cooperative matters. 3) Family interrelationships. 4) Processing. 5) Household account book. 6) Food preservation. 7) Husband's work. 8) Japanese traditional arts. 9) Politics, economics, social matters. 10) Other.

