

**The Role of Fisher-women on Food Security
at the traditional fishermen household of West Sumatra, Indonesia**
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Abstract

The objective of this study is to investigate the contribution of women to the household income, household food security, and nutritional status in fishing communities in coastal areas in West Sumatra, Indonesia.

The study has been done since June – February 2005 towards 176 fisher-women and their households of Padang Municipality, Padang Pariaman and Pesisir Selatan Regency. The sampling procedure has been proceed by *stratified random sampling* Stratified proportional random sampling. The data were analysed by means of descriptive and qualitative, the energy consuming level and nutrition status were measured by Nutritions Anthropometry analysis, then the results were compared to the WHO-NCHS standard.

The result of the study show that 36% of fisher-woman were involved in economy activities taking care of family food security. The types of work of fisher-woman, i.e ; trading, fish processing, home industry, farming, handy crafting (weaving), etc.

The total household income were Rp. 1,163,000.- or 125.- US\$ / household / month, and about 7,23% were contributed of fisher-women. About 52% of the fishermen households has consume < 80% Sufficiency. Therefore, the condition of traditional fishermen household is included on category of Less Food. But, for protein consumption is still Food Sufficient.

The condition of under five years children is in Nutrition Sufficient, because about 94% the Nutrition Status is on Nutrient Sufficient.(Harvard Standard / NCHS-WHO). This means, that the majority of the under five years children in coastal area is still in good nutrition.

Key Words ; Fisher-women, socio-economic, food security, nutrition

1. INTRODUCTION

The fisherman society which living in coastal area known as the most under development society group in so many development activities during the time. The traditional fishermen household is showed by the low level of asset production, usually catching of fish by using without motor (with sail or paddle). By having so low asset production that the access competence towards production of fishing ground is also relatively low, these causes low of production. The implication of that, the level of fishermen income is so low,

In facing the economy problem, usually the fisher-women take the important role in supporting the family income / household economy (Yater, 1983; Norr, *et al.* 1991), namely by doing many activities so that in certain condition they can solve their income problem (Jordan, *et al* 1982, Zein (2000)). As according to condition of a woman in rural area has double functions, that is as a housewife who takes care husband, household and child, and also woman play a part in doing to earn life to assist household economics (Aminah, 1982 ; Yater, 1983)

Besides at that, the women also have a function as manager in family living (Yater, 1983), like in determining / decision of expenditure pattern (consumption pattern and investment decision). Because of that the woman also have important role in determining household food consumption.

Food consumption is very determined by pattern household of expenditure itself. At the fisherman group which the lower income (like at traditional fisherman) is very difficult to fulfill of family nutrition's requirement. Because the ability to obtain the source of food which have protein and energy also very low. Because with low earnings the orientation of family instructed for the requirement of food especially in accomplishment of carbohydrate requirement for all family (Zein, 2000; Satari, 1989; Rahmadiyah, 1996)

The objective of this study are to analyze the role of fisher-woman in the household economic reinforcement, and to analyze the household food security and nutritional status at the traditional fisherman household.

This study has done at 3 (three) coastal region in West Sumatra between medio of 2004 until early 2005, which includes Padang Pariaman regency, Pesisir Selatan regency and Padang Municipality

2. METHODOLOGY

2.1 Type of Data and Number of Sample

The data collected will cover from the primary data and the secondary data. The sample has been collect through 2 Steps, that is : Step I : Multistage Random Sampling is utilizing to determine of research location. Step II :

Stratified proportional random sampling is utilizing to determine the amount of sample. The total of sample is 113 samples.

2.2 Data Analysis

The analysis has been done through 3 (three) aspect, i.e.; (1) the share of fisher-woman in household earnings, by descriptive analysis (2) analysis of food security and household strategy in fulfilling family food, by using combination two indicators of food security there are share of food expenditure and food energy consumes (*K-calorie*) Johnson and Toole (1991) in Saliem (2001), and (3) sufficiency and status of household nutrition, by using Food Frequency Questionnaire (FFQ) and Food Recall 2 x 24 hour successively, the data has been compared to its sufficiency, that is using Number of Nutrition Sufficiency (Anonymous, 1998). *For the Nutrition's status of under five years child (Balita)* through Nutrition's Anthropometry analysis, by WHO-NCHS book standard (Gibson, 1995; WHO, 1989).

3. RESULT OF RESEARCH

3.1 Socio-economic profile of traditional fishermen household

The majority of the traditional fishermen household has a big family members, there are about 52 % has 3 – 5 family members and about 44% has 6-8 persons (Figure 01). And about 49% the family of respondent has under five years child (Balita). The education level of fisher-women of traditional fishermen in West Sumatra is only passed from preliminary school (62%), and about 20% from junior high school (Figure 02).

In general the household of fishermen are living in they own house (90%) and only a little part (10%) are living in a rent house. They use of material for building other house as permanent standard, i.e ; using as permanent of wall (42%), semi-permanent (33%) and about 25% from wood (Figure 03). Furthermore, the majority of fishermen are using metal roof (89%) and a little part is using sago palm as house roof (Figure 04).

The specific problem in the fishermen village is about WC status. Most of the fishermen are using of public WC (like exist in Mosque, public WC). One of habit from a part community were defecate in a long side of coast. To access of clean water for drinking water, bath and washing, their using from natural well sources (89%).

In general, the living condition of fisherwomen in west Sumatra is the same like the condition with the other rural women, they play a double role in household activity, the primary role were managing at household and husband, and

mothering their child, The second role, that is working to make money to assist of house hold economy.

From 176 samples were collected, about 27% having activity to assist of house hold economic, and the other 63% didn't have the economics activity. The kind of activity of fisher-women that they can support of house hold economics, i.e trading, fish processing, farming, sewing and others (Figure 05). The reason of fisherwomen, that why they work, because wishing to assist their family economics and to fulfill their basic requirement of household. (Figure 06).

At the time the family in a state of difficulties economy, where they husband can not go to fishing (bad season). In this condition, the women take over the role for accomplishment of household food, the women searching a view alternative income, so that the family members can be survival. They borrowing the money from neighbors or brother, borrowing money or household food from their close small shop, doing thrift (Figure 07).

Besides of women, we found also their children that involve in assisting on household economics (18,6%). The scope of works for the children are; following in fishing activity, preparing before going to fishing (fuel, fishing gear, provisions, etc) and preparing of fishing gears (Figure 08).

The knowledge of fishermen about food and nutrition, we found 96% from respondent have known of food and nutrition. The information have to be obtain from extension and mass media (Figure 09).

3.2. The House hold Income

The income of fishermen household is around Rp 500.000,until Rp 4.337.400,- per months with average Rp 1.163.000,- per month (125 US \$) or about Rp 248.400,- per capita/months (26,7 US \$). This value is lower than the value of income/capita/month of Province of West Sumatra. (Rp 285.230,-) or (30,67 US \$). The income distribution of the traditional fishermen were distributes around 87,2% for 40% lower income. In the other side is about 4,3% fishermen house hold to be mastered on 20% highest income. (Table 1).

Table 1: The distribution of Fishermen household Income by Income group.

No	Distribution of Income	N	%
1	40 % Lowest	149	85
2	40 % Middle	19	10
3	20 % Highest	8	5
Total		176	100

Source : Primary data, 2004-2005

The contribution of women income to the household income is about 7,23%. and share from their children is about 2,80%. The meanings of that, the income of fishermen household is in highly poverty level.

3.3 Household expenditure

Food were represent as the fundamental of human requirement for living longer, so that every household will remain to made a sufficient of food. The expenditure will be increase a long with increasing the house holds income, but increase of income is not parallel with the quantity and quality of food consume. If the quantity and quality of food have sufficient, so that the ability of household will be transfer to non-food requirements. The expenditure distribution of fishermen household is between Rp100,000.- Rp 500,000.- per months (10.73 – 53.76 US \$) (Table 2).

Table 2. Expenditure Distribution of Traditional Fishermen.

No	Expenditure	N	%
1	< 100.000	0	0
2	100.000 – 200.000	19	11
3	200.000 – 300.000	80	45
4	300.000 – 400.000	43	24
5	400.000 – 500.000	22	13
6	> 500.000	12	7
Total		176	100

Source: Primary data: 2004 - 2005

To compare with the average expenditure of West Sumatra is about Rp 263.797.-/ capita/ month (28,37 US \$), so that the expenditure of the traditional fishermen is lower than West Sumatra, because the average income of fishermen household is also lower.

3.4 Nutrition Status of Fishermen Household

Nutrition is one of important factor to determining the quality of fishermen community. The average of energy consume of fishermen household is 83.2% or around 60.6% - 107,2%. Table 3 shows the level of energy consume.

Table 3. The Distribution of energy consume level

No	Energy Consume level	N	%
1	< 80 % Sufficiency	91	52
2	> 80 % Sufficiency	85	48
Total		176	100

Source: Primary Data; 2004 - 2005

From Table 3 above can be explain about 52% of traditional fishermen household their energy consume is under 80% sufficiency, that's mean about 52% the traditional fishermen is includes Less Food. And the others 48% were includes of Food Sufficient.

The other side, the protein consume of traditional fishermen is average 99,4%, or around 71.6% - 134.2% (Table 4).

Table 4 : The Distribution of Protein Consume Level

No	Protein Consume level	N	%
1	< 80 % Sufficiency	51	29
2	> 80 % Sufficiency	125	71
Total		176	100

Source: Primary Data; 2004 - 2005

Table 4 above shows that 71% of traditional fishermen is including of > 80% sufficient. It can say that the protein consume of traditional fishermen household is includes of Food Sufficient.

From Table 3 and 4 above sows, that looking from Energy Consume view the fishermen household is including Less Food, but looking from Protein Consume view, this condition can be called Food Sufficient. It can be understand, because in general in coastal area the source of protein can be easy to get without having the money, like fresh and also dry fish. But in contrary to get of source of energy is difficult for fishermen household, because the income level is lower, so that also difficult for buying of food with energy content.

3.5 The Status of Nutrition on Under five Years old (Balita)

The status of nutrition is one of indicator from successfully of development of nation. The situation of Less Nutrition, especially on Balita will disturbed to the growth of physical and Intelligence of children. The implication of that will determine of productivity of work or economic growth, and the quality of life is represent from development target.

The result of z-score is average -1.06 or between -2.4 until 1.1 . The meanings of that the nutrition status of under five years child is including Nutrition Sufficient. The distribution of nutrition is shows on Table 5.

Table 5: Distribution of Nutrition Status of Balita

No	z-score	N	%
1	> - 2 Sd.S (Nutrition	87	94

2	Sufficient) < - 2 Sd.S (Less of Nutrition)	5	6
Total		86	100

Source: Primary Data; 2004 – 2005

Note : Sd.S Standard deviation Score

From Table 5 above. it can be seen that only about 6% of under five years child (Balita) is includes on Less Nutrition, And about 94% of the Balita is includes Nutrition Sufficient. The meanings of that, the status of nutrition of Balita in traditional household is still better, because the consumption of energy and protein have above 80% sufficient. Even so, some Balita still have Less Nutrition, for expectation the distribution of consumption between family members are inequitable.

4. CONCLUSION

1. The average of income of traditional fishermen household in West Sumatra is about Rp 1,163,000.- (125.- US \$) per month. From that the share of income from fisherwomen (wife) to total household income is 7.23% and 2.80% from children.
2. The consumption of energy of traditional fishermen is about 52% includes Less Food, or only 48% includes Food Sufficient. But, for protein consumptions is still 71% includes on Food Sufficient.
3. About 49% the traditional fishermen family has under five years child (Balita). The status of nutrition is about 94% includes on Nutrition Sufficient.

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Appendix : Figures of the role of Fisher-women on Food security

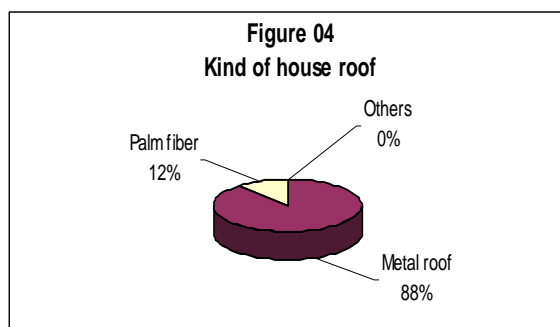
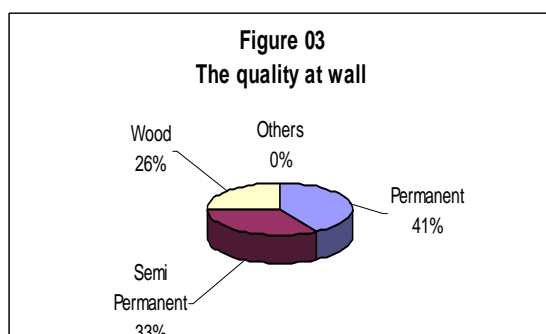
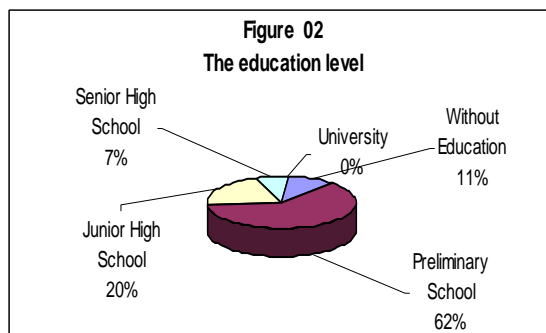
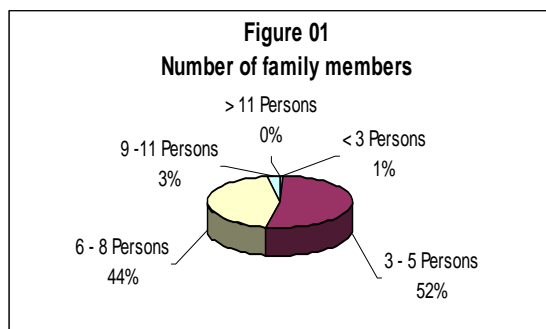


Figure 05
The kind of fisher-women job

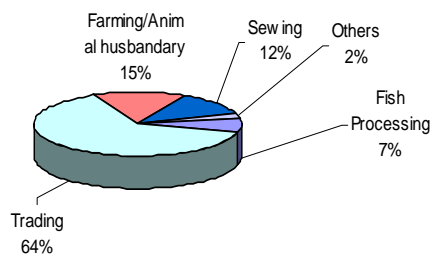


Figure 06
The reason of fisher women working

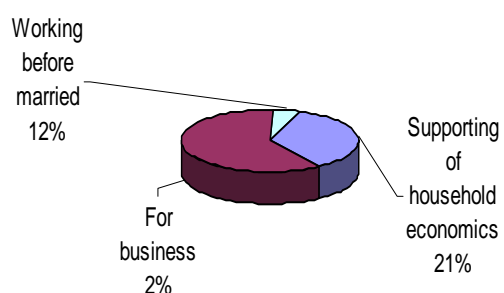


Figure 07
The alternative activity for sufficiency of food security

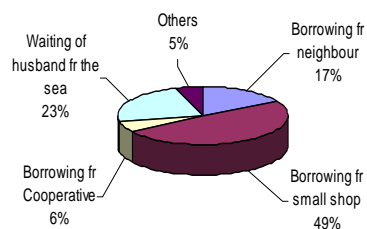


Figure 08
The contribution of children to the household economics

