Editorial

New Members, New Activities

Ο ne of the goals of the Network in 1993 was to expand its membership into new countries in the region. Our targetted countries were Vietnam and Bangladesh. We have been successful in initiating Network activities in Vietnam as a result of project support from the Netherlands Government. Through this project, we are also initiating new activities for the Network.

Under the auspices of a Dutch-funded aquaculture development project in Southern Vietnam, the Network has established contact with Cantho University and the University of Agriculture and Forestry in Ho Chi Minh City to become members of the Network. We will work with members of both the Faculty of Economics and Faculty of Fisheries at both institutions. We hope to expand membership to include institutions involved in marine fisheries and coastal resources research in 1994.

The Network's relationship with our new members will be different from that of members in the past. As a result of the Dutch-funded aquaculture development project, Network members will be involved in training and collaborative research activities to enhance research capabilities. This is a new activity for our members who will act as resource persons and trainers for our new members. Rather than having experts from outside the region put on training programs, we will use scientists from within the Southeast Asian region to conduct these activities. It is an important milestone for the Network that our members, in a relatively short time, have developed the capability to assist their Asian neighbors in developing their research capacity in fisheries, aquaculture and coastal resource management.

We are looking forward to working with our new member institutions and scientists and the new activities of the Network. We hope that it will be the beginning of many more such relationships.

R.S. Pomeroy

Determinants of Women's Economic Participation in the Small-Scale Fisheries Sector, Peninsular Malaysia

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(Editor's Note: This paper forms part of a larger research project on the same subject matter funded by the AFSSRN.)

Introduction

T he overall objective of the study was to examine the incidence, nature and determinants of participation of women in income-earning or economic activities in the small-scale fisheries sector, with specific reference to the two East Coast States of Kelantan and Terengganu in Peninsular Malaysia. The study is based on data collected from a survey of 200 respondents in Kota Baru and Kuala Terengganu undertaken in mid-1992. This paper specifically examines the main determinants of women participation in income-earning activities.

Factors Affecting Women Fishers' Participation

It is generally observed that women participation in income-earning activities depends on the following explanatory variables:

(1) a location dummy variable (DMYLOC) to test the impact of accessibility of women fishers to paid job opportunities in the town centers;

(2) age of women fishers (AGE) to depict the relationship between age and participation decision;

(3) educational level (EDUC) of women fishers to gauge the effect of education on
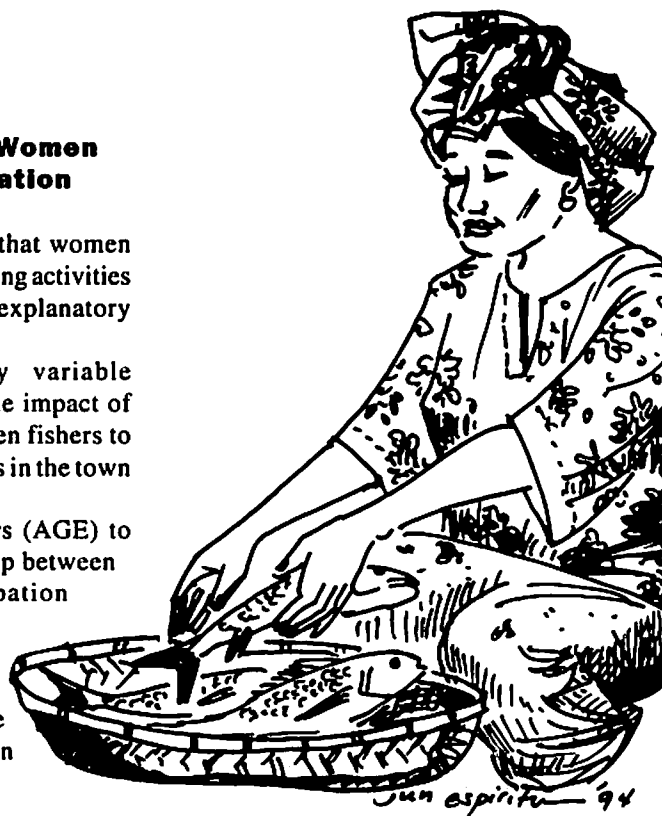
the probability of participation in income-earning activities;

(4) number of family members other than the household head (HLDSZE);

(5) number of family members working including the household head (WRKPER), the effect of which on the decision of wives to participate in income-earning activities is not predictable; and

(6) monthly household income (HSYINC) which takes into account income earned by other working members of the household besides the woman fisher.

Results of the Regression Analysis

The explanatory variables are introduced simultaneously in a multivariate framework to estimate their independent effect on women fishers' economic participation using a logistic regression model. The results are presented separately for participation of women fishers in paid employment and participation in self-employment, the latter referring to those who are self-employed in their chosen income-earning activities.

Dependent Variable: Participation In Paid Employment

The dependent variable, participation in paid employment (PPE) is coded 1 if the woman fisher is in a paid job, and 0, if otherwise. The results of the logistic regression is presented in Table 1.

The model chi-square of 23.874 is significant at 1% level, implying that the coefficients for all the terms in the model are significantly different from 0. Goodness of fit (179.963) is not significant at 1% level, indicating that the data fit the model well. Significant variables in explaining the women fishers'

participation in paid employment at the 10% level of significance are AGE, WRKPER and HSYINC.

DMYLOC is found to be insignificant in influencing women fishers' participation in paid employment. This means that the proximity of the fishing village to town centers like Kota Bahru or Kuala Terengganu does not increase the probability of women fishers getting employed in paid jobs. This could be attributed to the fact that majority of women fishers who were in paid employment were primarily engaged in local-based activities in their villages.

AGE is found to have an inverse relationship with economic participation, indicating that increased age reduces the probability of participating in paid employment. This could be attributed to the nature of the paid jobs currently undertaken by women fishers which may not be suitable for older women.

Contrary to a priori expectation, EDUC has a negative relationship with economic participation. This indicates that higher education does not necessarily increase the marketability of women fishers in paid jobs. Such finding confirms the general contention that women fishers, like their rural counterparts, are primarily engaged in unskilled low-paying jobs which do not require high educational attainment.

HLDSZE is found to have a negative coefficient, indicating that if women fishers have large families (i.e., higher proportion of young children or dependents), the probability of them participating in paid employment is lower. Since paid employment requires working outside the home, women fishers with larger families are less likely to work due to their heavy household chores and childcare responsibilities.

The positive relationship between WRKPER and women fishers' participation

in paid employment indicates that the probability of participation increases with higher number of working family members. This could be attributed to increased awareness and exposure to greater job opportunities among women fishers with more working family members as compared to the traditional households where only husbands are supposed to work.

Finally, HSYINC is found to have a negative relationship with economic participation of women fishers in paid employment. This implies that the need and probability for the women fishers to work increases with lower household income.

Dependent Variable: Self-employment

The dependent variable, participation in self-employment is coded 1 if the woman fisher is self-employed, and 0, if otherwise. The results of the logistic regression are presented in Table 2.

The model chi-square value of 29.127 is significant at 1% level, implying that the coefficients for all the terms in the model are significantly different from

Table 1. Participation of women fishers in paid employment.

Variables	Coefficient	Standard Error
DMYLOC	-0.4113	0.3736
AGE	-0.0442*	0.0167
EDUC	-0.3940	0.3555
HLDSZE	-0.0559	0.0700
WRKPER	0.9661*	0.2993
HSYINC	-0.0031*	0.0010
Constant	1.0323	1.0286
No. of observations		179
Model Chi-Square (level of significance)		23.874 (0.0006)
Goodness of Fit (level of significance)		79.963 (0.3232)

*Significant at 10.0% level.

Table 2. Participation of women fishers in self-employment.

Variables	Coefficient	Standard Error
DMYLOC	0.4528	0.3493
AGE	0.0551*	0.0168
EDUC	0.7073*	0.3339
HLDSZE	0.0649	0.0659
WRKPER	-0.9653	0.2843
HSYINC	-0.0016*	0.0009
Constant	-1.8560	1.0369
No. of observations		179
Model Chi-Square (level of significance)		29.127 (0.0001)
Goodness of Fit (level of significance)		177.585 (0.3693)

*Significant at 10.0% level.

0. Goodness of fit (177.585) is not significant at 1%, indicating that the data fit the model well. Significant variables at the 10% level are AGE, EDUC, WRKPER and HSYINC.

The significance of DMYLOC and its positive relationship with women fishers' participation indicate that the proximity of fishing villages to town centers increases opportunities for women fishers for self-employment. Women fishers who were self-employed were primarily engaged in their own businesses or were performing paid services for others. Thus, the proximity to the town centers increases their accessibility to markets and sources for raw materials essential for their business activities.

AGE is found to be significant in influencing the probability of participation in self-employed activities, indicating that the older the women fishers are, the greater the probability of their being self-employed. Unlike paid employment, self-employment requires some degree of experience and maturity, especially for those in business. These qualities presumably are more inherent among older women fishers compared to their younger counterparts.

EDUC is found to be positively correlated to participation in self-employment, indicating that higher education increases the probability of participation. This seems to imply that participation in self-employment requires a better education compared to paid employment, since for the latter category, as suggested by our earlier finding, higher education does not necessarily enhance the marketability of women fishers.

HLDSZE has a positive relationship with self-employment indicating that the larger the families, the greater is the

probability for women fishers to engage in self-employment. Unlike those in paid employment, self-employed women fishers, despite having large families, find it easier to be involved in economic activities which do not require them to leave their homes. Thus, flexible working hours and the ease of combining household chores and childcare responsibilities with income-earning activities will naturally enhance their economic participation.

WRKPER is found to be negatively correlated to participation in self-employment. This indicates women fishers with larger number of working family members engage less in self-employed activities.

Finally, HSYINC is significant with a negative coefficient, implying that the lower the income, the greater is the probability for women fishers to participate in income-earning activities. This is consistent with *a priori* expectation that poverty and low incomes among fishing households have forced women to be economically active in order to supplement the family income.

Policy Implications

The findings of the study are highly relevant to the formulation of women-oriented development policies and programs in the small-scale fisheries sector. From a macropolicy perspective, an important conclusion of this study is that economic participation of women fishers can play an important role in alleviating not only their socioeconomic status but also that of their families. Efforts to improve the welfare of artisanal fishing households should not, therefore, be confined merely to policies pertaining to increased fishing income strategies. A more encompassing approach should be adopted to integrate the economic contribution and participation of women into overall fisheries development policies and programs. For the success of this approach, concerned fisheries authorities and agencies should be more committed to planning and implementing development programs specially designed for women.

To increase participation of

women fishers in income-earning activities, specific fisheries and nonfisheries programs should be created in the vicinity of fishing villages. These should take into consideration the availability of local resources, women fishers' skill and interests and market potentials. Examples of such programs are small cottage industries (e.g., batik-making, weaving, silvermaking, tailoring and embroidery) and fisheries-related activities (e.g., net-making and repair, fish processing and preservation) and other agro-based industries (e.g., fruit preservation, copra and coconut oil manufacturing).

Since formal education is not an important variable in increasing participation, especially among women fishers in low-paying jobs, authorities should focus more attention on specialized training programs directed at improving their skills and expertise. One good example is training of women fishers in handling, preservation and processing of fisheries products.

Since HLDSZE is found to have an effect on women fishers' participation in paid employment, providing and improving facilities like creche, kindergartens and childcare center will encourage more women to find work outside their homes. Women fishers' economic participation can be enhanced through promotion of family development and planning information and services to reduce the number of children.

In summary, the foregoing study highlights the possible public policies and programs which could be initiated and/or consolidated to enhance the economic role and participation of women fishers in the artisanal fisheries sector. These policies and programs should focus not only on economic but also on social and welfare-oriented programs to ensure that the women can participate more actively in income-earning activities and, at the same time, efficiently carry out their gender role as mothers and homemakers.

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