

# Ethnic and Women Farmer Participation Rate on Tidal Land in South Sumatra, Indonesia

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**Abstract**—Land conversion has led to the limited agricultural land that can be cultivated by farmers. One alternative land which can be used is tidal land. But this land has limitations because only one crop a year. Thus, farmers in this region is usually poor. To cover the family income, the women farmers is usually go to work. Labor force participation of women farmers is thought to vary among etnis. The research method is a survey method. The sampling method This study was using disproportionated stratified random sampling. The analysis method is non-parametric statistical. The results showed that balinese women farmers has the higher labor force participation compared than locally and javanese women farmers. Family income Balinese and javanese woman has a positive correlation with income, but not to Locally ethnic.

**Keywords**—Etnics, Participation, Woman of Labor, Tidal Land

## I. INTRODUCTION

REDUCED land area of food as well as the growing need for national food especially rice due to population growth, led to the choice of food is directed at suboptimal land use, either for agriculture or for human habitation. Of course, the decline in the amount of agricultural land that can be cultivated encourage researchers to look for alternative agricultural expansion such as tidal land. Reference [2] shows one of the strategies that can be used to prevent over Land conversion is land zoning. One of them with agricultural expansion began to focus on tidal land, who previously rarely gets attention.

Tidal land is one of the sectors that contributed greatly to regional income. One of the areas in South Sumatra province have tidal area is large enough is Banyuasin. Most of the population in this area has subsistence rice farmers in tidal land. Reference [1] shows that tidal rice farming can be done only 1 time in a year. This causes the population in sub-Jaya makarti population classified as poor.

Population in the district is comprised of numerous ethnic groups, including locally, Javanese, Balinese, and Bugis ethnicity. Housewife got involved with her husband in tidal rice farming. Participation of women farmers is needed to help increasing family income. Female workers greatly affect family income, especially in rural or urban villages that rely

on family labor. Diverse ethnic groups in this area led to differences in the participation of women farmers to farm and farm income in each ethnicity as in Reference [2].

Since the opening of employment opportunities outside of the role of women in the household, to adjust the role of homemaker and breadwinner part, women organize their work by reducing time on housework. Work participation not only lead to increased household income but actually increase the wives role in decision-making that allows women to have a more positive perception as is Reference [3].

The purpose of this research are : (1) to analyze woman farmers' income contributed to the family income, (2) to analyze the differences in the rate of participation of women farmers, and (3) to analyze the relationship between the participation of women farmers with income families Javanese, Balinese, and Local ethnicity in Tidal Land, South Sumatra.

## II. RESEARCH METHOD

The research was conducted in the District Banyuasin which has the largest tidal areas in South Sumatra and comprises a variety of ethnic groups, including Java, Bali and Local ethnic and involve women in the family (wife) as a peasant woman who participated did tidal rice farming. The method used in this study is a survey method. The sampling method used in this study was disproportionate stratified random sampling. Type of data collected consist of primary data and secondary data.

To answer the first research objectives about the contribution of tidal rice farming income to the family income of each ethnicity as in Reference [4], the formula used to calculate income as follows:

$$Pd = Pn - Bt$$

$$PdK = PdKU + PdKnU$$

For:

$$Pd = \text{farm income (IDR / ha)}$$

$$Pn = \text{Revenue (IDR / ha)}$$

$$Bt = \text{Total cost (IDR / ha)}$$

$$PdK = \text{Family income (IDR / year)}$$

$$PdKu = \text{income families in the farming (IDR / year)}$$

$$PdKnU = \text{non-farm family income (IDR / year)}$$

To measure the level of participation of women farmers used aspects of decision-making and technical aspects of the division of labor (donated labor). By using a Likert scale and the resultant value of interval class interval criteria for the

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level of participation of women farmers in each ethnic (See Table I)

TABLE I.  
INTERVAL VALUE AND CRITERIA FOR CLASS PARTICIPATION RATE WANITATANI IN EACH ETHNICITY

No	Interval Value	Criteria
1	12,00 < x < 20,00	Low (R)
2	20,01 < x < 28,00	Middle (S)
3	28,01 < x < 36,00	High (T)

Hence, these criteria, the data can be processed using the Kruskal-Wallis test for samples > 2. In metematis formula used is:

$$H = \frac{12}{N(N+1)} - \sum_{i=1}^k \frac{R_i^2}{n_i} - 3(N+1)$$

Where:

H = Statistics Kruskal Waliss

N = Total observation

R = Number of rating the samples to-i

$\alpha = 0,05$

Rule-making:

Accept Ho, when,  $H_{hit} < H\alpha_{(n1,n2,n3)}$ . Meaning: There is no difference in the level of participation of women farmers in the three ethnic

Reject Ho, if,  $H_{hit} > H\alpha_{(n1,n2,n3)}$ . Meaning: There are differences in the level of participation of women farmers among the three ethnic.

After we do the Kruskal Wallis test, decision-making leads to reject Ho, this means that there are differences in the effects of a given treatment. To find out which treatments are different then used as a test of double comparison :

$$|\bar{R}_i - \bar{R}_j| \leq Z \sqrt{\frac{N(N+1)}{12} \left( \frac{1}{n_i} + \frac{1}{n_j} \right)}$$

Where  $Z = \alpha / k(k-1)$

In the third objective is to analyze whether there is a relationship between the participation of women farmers with income families then used Spearman's Rank coefficient test statistics with significance level of 0.05 with the following hypothesis:

Ho: There is a correlation between the two variables

Ha: There is a correlation between the two variables

$$r_s = 1 - \frac{6 \sum di^2}{n(n^2 - 1)}$$

$$\sum di^2 = \sum_{i=1}^2 \{R(xi) - (yi)\}^2$$

Rule-making:

Accept Ho,  $r_s$  hit, meaning: there is no positive relationship between participation in family income

Reject Ho,  $r_s$  hit, meaning: there is a positive relationship between participation in family income

### III. RESULT

#### A. Analysis o woman farmers' income contributed to the family income in Tidal Land

Family incomes of women farmers in the ethnic Balinese higher than the family income of local and javanese women farmers. This is cause by the production costs incurred by ethnic Balinese family less than other ethnic families. The families of Balinese women farmers more work for a living than others women. This led to labor outside family who used by Balinese less than Javanese and Local (see Table II).

TABLE II.  
AVERAGE INCOME OF WOMAN FARMERS FROM TIDAL RICE FARM OF EACH ETHNICITY

Component	Javanese	Balinese	Local
	IDR/ha		
1. Revenue	7.570.000	7.040.000	5.520.000
2. Cost	3.349.708	2.489.915	2.960.000
3. Income	4.220.292	4.550.085	2.560.000

Source of household income women also come from non-rice farming that is coconut farming. Meanwhile, family household income of women farmers from outside the farm that is farmworker

TABLE III.  
THE AVERAGE FAMILY HOUSEHOLD INCOME OF WOMEN FARMERS IN VARIOUS ETHNIC IN TIDAL LAND

Source of Income (IDR/Year)	Ethnics		
	Javenese	Balinese	Local
Rice	4.220.292	4.549.815	2.560.000
Coconut	420.000	780.556	220.000
FarmWorker	2.115.000	552.778	2.030.000
Amount	6.755.292	5.883.148	4.810.000

Source of family income Javanese peasant woman different from non-farm income Balinese and local women farmer ethnic, because of the Javanese woman trying to swallow that can help increase the income of non-farm income family.

Farmers in tidal land had a job as a main tidal rice farmers. The average contribution of woman tidal rice farming income given the family income of more than 25 percent. Tidal rice farming contributes significantly to family income of women farmers in each ethnicity (See Table IV).

TABLE IV.  
AVERAGE REVENUE CONTRIBUTION OF WOMAN RICE FARMING ON THE FAMILY INCOME OF EACH ETHNICITY IN TIDAL LAND

No	Ethnics	Percentase (%)
1	Javanese	27,62
2	Balinese	32,75
3	Local	25,47

### B. Participation of Women Farmers

There are differences in the level of participation of women farmers in Javanese (See Table V). Reference [5] shows to increase the participation of women farmers in the farming activities should be no extension women who served in that area and form groups so that the participation of women farmers in the farming women more visible and expected role is given in the farming activities can increase farm income .

To further investigate the different ethnic whichever of the three ethnic groups then tested the Multiple Comparisons. From calculating scores, finding that balinese woman score higher than the ethnic Balinese and Javanese Local. The high participation of women farmers in rice farming ethnic Balinese tidal nothing to help her husband earn a living. As we know the ethnic Balinese women are working women that has become their habit to work for a living.

TABLE V  
THE PARTICIPATION RATE OF WOMEN FARMERS BY ETHNICITY IN TIDAL LAND

Ethnic	Aspect		Participation Rate	Criteria
	Desicion Making	Labor Division		
Jawa	11,80	13,10	24,90	Middle
Bali	14,50	15,83	30,33	High
Lokal	10,80	13,00	23,80	Middle

### C. Relationships between Women Farmer Participation Rate to Total Family Income

No significant positif relationship between the level of participation of local women farmers with family income. This happens is cause of the contribution of men in the farming greater than women. Role or participation of women farmers in the family also does not significantly affect the production of rice, although the contribution of women's labor in the family so help to reduce the production cost of tidal rice farming.

There is a real significant positive relationship between the level of participation of balinese and javanese women farmers with family incomes at local ethnic. Women are very rarely is very excited to help her husband tidal rice farming (See Table VI) .

TABLE VI.  
SPEARMAN CORRELATION TEST SCORE BETWEEN THE LEVEL OF WOMAN FARMERS PARTICIPATION RATE AND TOTAL FAMILY INCOME

Ethnics	$R_{s-hit}$	$R_{s-tab}$	
Javanese	0,42	0,379	Significant
Balinese	0,51	0,399	Significant
Local	0,76	0,800	Not Significant

### IV. CONCLUSION

1. Woman of tidal rice farm income contributes more than 25 percent of total family household income Javanese of Balinese, Javanese and local ethnicity.
2. There are differences in the level of participation of women farmers in tidal rice farming in Javanese, Balinese ethnicity. Ethnic Balinese farmer participation of women is higher than Javanese and Local.
3. There is a significant positive relationship between the level of participation of women farmers and income families in ethnic Javanese and Balinese, whereas there is no significant positive relationship between the level of participation of women farmers with income families for Local ethnic.

### V. ADVICE

1. Participation of women farmers in the farming can be appreciated both morally and materially so that women farmers who grew more excited
2. If further research is conducted should be added to other ethnicities residing in the area such as ethnic Bugis or Malay ethnic diversity so it looks a lot more participation of women farmers and their farm income

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