

Impact of Minangkabau's Out Migration: Merantau To Household Labor Allocation in West Sumatra, Indonesia

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IMPACT OF MINANGKABAU'S OUT MIGRATION: MERANTAU TO HOUSEHOLD LABOR ALLOCATION IN WEST SUMATRA, INDONESIA

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ABSTRACT

Merantau is a unique form of outmigration in Minangkabau communities. The Minangkabau's strong tendency to migration as a rite de passages especially for young men. They migrate from rural areas to looking for experience, prosperity and education. Its also places a heavier burden on household left behind to make up for lost local labor. The impact of outmigration on agriculture, especially on household left behind has long been debated. Thus identifying impact of migration on household in rural origin is an open empirical question. The main purpose of this paper is to analyse impact of *merantau* to household left-behind labor allocation in on-farm, off-farm and non-farm activity. The paper uses treatment regression techniques to assess impact *merantau* on household labor allocation. The result provide that *merantau* contributes to increase hired labor on paddy farming. Paddy farming operations used 89% hired labor. *Merantau* reduce labor force participation for household members left behind and increase non-farm activity. Base on the findings, this study contributions to the literature by providing a wider understanding of labor supply decisions in rural household that have migrant and receive financial transfers.

KEY WORDS

Out migration, *merantau*, minangkabau, paddy farming, labor allocation.

Indonesia is the world's archipelagic country with five major islands among more than 30.000 of islands. Its inhabited by more than three hundred ethnic societies. This condition has been conducive to outmigration between and beyond the islands. The Minangkabau society, one of the largest matrilineal society, have been noted for a high level of migration called *merantau*. Its means voluntary migration from homeland to other places with the aim of earning a living or seeking further knowledge or experience (Naim, 1979). Recently Minangkabau society are found throughout almost in the regions of Indonesia.

The type of *merantau* is mainly from rural to urban areas. As a typically rural areas, agriculture sector has long been considered to play important role in West Sumatra's economic development. In this province, where paddy farming is dominant, most people especially in rural areas make a living and depends from it. Programmes for increased paddy production is focused on intensification, diversification, expansion and implementation of new technology. Among the obstacles paddy farming faced were land degradation, technological and infrastructure shortcomings, poor financial support and loss employment because of outmigration. In paddy production, access to labor very substantially

Perantau, Minangkabau migrants, do not always move with their entire family such as spouse, children and parents. In addition places a heavier burden on household left behind to make up for lost employment. The impact of outmigration on agriculture, especially on household left behind has long been debated. Thus identifying the impact of migration on household in rural origin is an open empirical question. On the one hand, outmigration through financial transfers, positively to increasing household income (William, 2007; McCarthy, 2006; Adam, 1996; Cadwell, 1968), make available capital stock in agricultural production (Black, 1993) and reducing poverty (Acharya and Gonzales, 2012). On the other hand, the physical absence of the migrant may have multiple adverse effects on family member's education, health, labor supply and social status (Démurger, 2015), reducing farm production (Rozelle et.al, 1999; Maharjan, 2013; Taylor and deBrauw, 2003) and labor

market participation as well as the number of hours worked (Rodriguez and Tiongson, 2001) but also raise off-farm work (Brad, 2007).

Rural household labor resources include not only working on farm but also off-farm and non-farm work. Farm household allocated labor resources between farming, off-farm and non-farm employment to maximize their labor return (Polzin and MacDonald, 1971). Meanwhile Yiqiong (2015) said that household diversified their labor force to increase income, welfare and avoid risks. The main objectives of this study is to identifying household labor allocation who had migrant members and impact of *merantau* to household labor allocation.

METHODS OF RESEARCH

This study was conducted in three villages of three districts: Sulit Air Village of the Solok district, Sungai Tarab village of the Tanah Datar district and Koto Tuo village of the Padang Pariaman district, West Sumatra Province, Indonesia. There are many reasons why those villages and districts are selected the study area. First, in those areas as known highly level of *merantau*. The second reason is that in Minangkabau communities, household's income is mostly from agriculture sector especially paddy farming.

The unit samples are household whose produce paddy. They were selected randomly in each village, so the total respondents are 141 household. The study analyses data obtained interviews of work hours household's paddy farming for one year, using structural questionnaire. The data were analyzed using multiple regression with Statistical Analysis System (SAS) version 9.03 to estimate impact of *merantau* to household labor allocation in paddy farming.

Household labor allocation model in this study based on Barnum and Squire (1979) model. This model allows to assess the impact of migration on labor supply and household can hired labor. The central part of this study was concentrated on the household labor allocation problem. Household behavior describes a semi-commercial family farm with a competitive labor market. Household labor allocation model as follows:

a. Household Labor Allocation On-Farm Work:

$$\begin{aligned} HHL_m &= \beta_0 + \beta_{1,1}LS + \beta_{1,2}W + \beta_{1,3}NM + \beta_{1,4}PR + \beta_{1,5}UF + \mu_1 \\ HHL_w &= \beta_0 + \beta_{2,1}HHL_m + \beta_{2,2}LS + \beta_{2,3}PP + \beta_{2,4}HHL_m + \beta_{2,5}PR + \mu_2 \\ HL_m &= \beta_0 + \beta_{3,1}HHL_m + \beta_{3,2}LS + \beta_{3,3}W + \beta_{3,4}PP + \beta_{3,5}HIS + \beta_{3,6}HHA + \beta_{3,7}NM + \beta_{3,8}FT + \mu_3 \\ HL_w &= \beta_0 + \beta_{4,1}HHL_w + \beta_{4,2}LS + \beta_{4,3}W + \beta_{4,4}PP + \beta_{4,5}NM + \beta_{4,6}FT + \beta_{4,7}HL_m + \mu_4 \end{aligned}$$

b. Off-Farm Household Labor Allocation:

$$OFL = \beta_0 + \beta_{5,1}HHL_m + \beta_{5,2}ONL + \beta_{5,3}HHA + \beta_{5,4}YS + \beta_{5,5}HTI + \beta_{5,6}NM + \mu_5$$

c. Non-Farm Household Labor Allocation:

$$NFL = \beta_0 + \beta_{6,1}HHL_m + \beta_{6,2}HE + \beta_{6,3}HHA + \beta_{6,4}NM + \beta_{6,5}FT + \beta_{6,6}SI + \beta_{6,7}VL + \mu_6$$

The names of variables in those models are listed details in Table 1.

Table 1 – List of Variables Name

HHL _m = Men's Household labor hours	PP = Paddy production
HHL _w = Women's Household Labor hours	HE = household expenditure
HL _m = Men's Hired labor hours	HHA = Household Head Age
HL _w = Women's Hired labor hours	FT = Financial transfers
LS = Land size	OFL = off-farm Household Labor Allocation
W = Agriculture wage	NFL = non-farm Household labor allocation
NM = Number of <i>perantau</i>	HIS = household income surplus
PR = Paddy Price	VL = value of livestock
UF = Urea fertilizer	YS = yard size
HTI = Household Income	

RESULTS AND DISCUSSION

Determinant of *merantau* described by number of *perantau* and financial transfers (refers to remittances). Minangkabau's *perantau* is generally highly concern for welfare of their family and rural origin. They send financial transfers through friends, the post office, bank or visiting homeland.

Impact Merantau On-Farm Labor Allocation. Table.2 presents parameter estimated. On-farm labor allocation consist for household labor and hired labor. The number of *perantau* has negatif impact on men's household labor and positif impact on women's hired labor as expected. Raising in household labor supply due to migration reducing men's household hours worked on paddy farming, on the contrary increasing number of women's hired labor.

The negatif sign of HHL_m variable, suggested related to ageing phenomenon in agriculture areas. According to Fan et.al (2014) findings alteration demographic composition of the agricultural work force in US. The average worker today is older and more likely to be female. They hypothesized that such worker might be less likely to migrate. Kreager (2006) said that in Rao-Ra, one of the higher level migration in Tanah Datar district, activity *merantau* was change social structure and ageing phenomenon. This indicated from positif sign in household head age (HHA) on men's hired labor. The value of HHA coefficient is 3.58 means raising on 1% HHA will be increase men's hired labor 3.58 hours worked.

Futhermore outmigration of family members including young men was independently associated with raising leisure time allocation for parents or non-farm activity any else. Financial transfers perceived support household well-being and reducing on-farm labor allocation. William (2007) called this phenomenon as "moral hazard" such as impact of flows financial transfers from migrant or *perantau* to family left behind.

Based on the data (show in Figure 1) can descibing why men's household labor decreasing ? We suggest it associated with sort of paddy operations. Involvement of men's household labor in all of paddy operation is less. Generally they workfield on a part of land preparation (such as slashing or dibbling bar) and fertilization. Plowing land used tractor machine and harvesting was worked by men's hired labor. On the other hand both women's household and hired doing transplanting, weeding, fertilization and also harvesting. This study reveal that migration make "agricultural feminism" as supported by Sifelani (2009), Katz (2003) and Schmook (2008). With the result, hired labor were contribution on paddy operations about 89% and household labor 11%.

Table 2 – Estimation Result of Equation parameter: Labor Allocation on Paddy Farming

Explanatory variables	Parameter Value			
	Men's Household Labor	Women's Household Labor	Men's Hired Labor	Women's Hired Labor
Intercept	-1.20 ^{ns}	1.80**	0.27 ^{ns}	-0.63 ^{ns}
Men's Household labor (HHL_m)		1.41 ^{ns}	-0.44 ^{ns}	
Women's Household Labor (HHL_w)				-2.16**
Men's Hired labor (HL_m)				-0.14 ^{ns}
Land size(LS)	0.41 ^{ns}	-0.90 ^{ns}	2.91***	4.02***
Agriculture wage (W)	-0.25 ^{ns}		-2.19**	0.84 ^{ns}
Number of <i>perantau</i> (NM)	-1.53*		0.14 ^{ns}	2.37**
Paddy Price (PR)	2.47**	-0.88 ^{ns}		
Urea fertilizer (UF)	1.95**			
Paddy production (PP)		2.34**	8.33***	4.77***
Household Income Surplus (HIS)			-2.00**	
Household Head Age(HHA)			3.58***	
Financial transfers (FT)			-0.75 ^{ns}	-0.49 ^{ns}
F-Statistic	3.52**	2.12*	41.97***	32.28***
R ²	0.1153	0.072	0.7178	0.6294

Note: ***) significant at 1%; **) significant at 5%; *)significant at 10%; ns) not significant.

Financial transfers shows no significant on labor allocation in paddy farming. It may indicated that financial transfer from *perantau* do not invested in paddy farming. Maharjan et.al (2013) mentioned that migration undermines the agricultural sector which remittances are seldom invested in land or other capital inputs needed to improve the agricultural sector.

To end the analysis variables that influence on men's hired labor with sign expected are land size (LS), paddy production (PP) and household head age (HHA). Demand of hired labor in paddy farming affected by land size and household head age. This result same as with in corn production in Nusa Tenggara Timur (Leki et.al., 2016). Paddy production will be increase when hired labor added. In other things women's hired labor can substituted women's household labor, its indicated by negatif sign in estimation result.

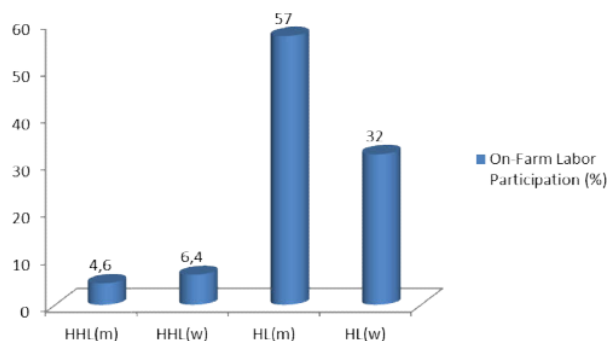


Figure 1 – On-Farm Labor Allocation in Paddy Farming

Impact Merantau On Off-Farm and Non-Farm Labor Allocation. In order to maximize labor resources, rural household prefer to labor force diversity employment. They allocate labor resources to different sectors for employment such as on-farm, off farm, non-farm activity and including migration. Motivated by the common is to increase family income and welfare, the other reason is to avoid risks.

Table 3 – Estimation Result of Equation parameter: Labor Allocation on Off-Farm and Non-Farm Activity

Explanatory variables	Parameter Value	
	Off-Farm Labor	Non-Farm Labor
Intercept	3.71***	3.38***
Men'sHousehold labor (HHL _m)	-1.29 ^{ns}	-1.13 ^{ns}
Number of <i>perantau</i> (NM)	-0.46 ^{ns}	2.32**
Household Income (HTI)	5.59***	
Household expenditure(HE)		5.60***
Household Head Age(HHA)	-3.82***	-4.48***
Financial transfers(FT)		-4.46***
Non-farm Household labor allocation(NFL)	-4.18***	
Household Income Surplus (HIS)		3.73***
Value of livestock(VL)		-4.96***
Yard size(YS)	0.94 ^{ns}	
F-Statistic	9.44***	12.88***
R ²	0.2971	0.4040

Note: ***) significant at 1%; **) significant at 5%; *)significant at 10%; ns) not significant.

Table 3 provides a estimation of all variables used in the empirical analysis in off-farm and non-farm labor. Variable number of *perantau* (NM) does not significant influence off farm labor allocation. Result suggest that household income positively encouraged to increse off farm hours worked. Allocation in off farm labor affected by non-farm hours worked with negatif sign. An increasing in hours worked off-farm labor 1% may reducing non-farm activity about 4.18 hours worked. Result representing that off-farm and non-farm labor have substitute association in both. In addition value of livestock (VL) has negatif sign and significant. Value of livestock as determinant for off-farm activities.

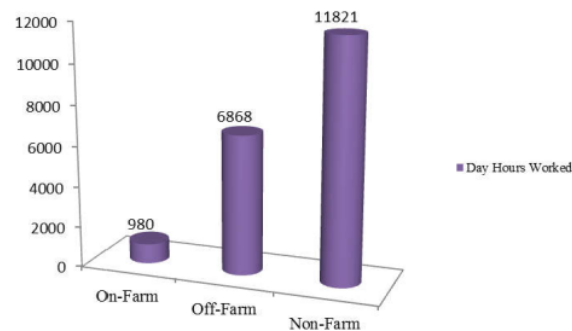


Figure 2 – Household Labor Allocation in Multiple Activity

While all dependent variables in this model simultaneously influence non-farm labor allocation. Variable number of *perantau* (NM) has positif sign and statistically significant. The consequence of lack of family member who *merantau* will increasing usage non-farm activity. Contrary to expectation, impact of financial transfers to non-farm activity has negatif sign. Meanwhile it has positif sign for income surplus. Presumably the financial transfers do not affected with direct connection to non-farm activity, but pass through income surplus.

Household expenditure (HE) has positive sign and significant. It describe that to enhancement disposable income for necessity household expenditure, they use more labor resources for non-farm activities. Finally, the labor behavior on household left behind in village which has higher level of *merantau* generally devote labor resources to more non-farm activities (see Figure 2).

CONCLUSION AND SUGGESTIONS

The lack of family labor caused by outmigration (*merantau*) in West Sumatra have the impact on more hired labor and less household labor in paddy farming. Financial transfers as a determinant of remittance from *perantau* is not significant influence on demand of hired labor or off-farm activities. The results indicated that when financial transfers relatively high, peasant do not invest in crop farming and livestock. We assume that household prefer to use it on non-farm activities such as family entrepreneurs called *manggaleh*, consumption goods and for more leisure. The result also suggest that *merantau* have to role in increasing feminisation on agriculture due to deprivation of men's labor.

The findings of this study contributions for relevant policy implications. *Merantau* has been cultural and natural process for Minangkabau communities. The stagnating in agricultural sector must be government concern that seeks policy attention, caused it still the major source of livelihood for rural household. Involvement of migrant community organization such as SAS (Sulit Air Sepakat), IKTD (Ikatan Keluarga Tanah Datar) and PKDP (Persatuan Keluarga Daerah Piaman) to contribute on rural development.

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