

Preference of Rural Youth Livelihood in Indonesia Rural Areas and Its Factors

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ABSTRACT

Indonesia is facing serious problem of unemployment in rural areas while in agricultural sector, there is lack of labour availability. This research discusses issue between livelihood choices and their determinant factors of rural youth in East Java, Indonesia. The 200 survey data was analysed by multinomial logit for measuring response probabilities of alternative livelihoods which consist of agricultural jobs, non-agricultural employment, non-farm entrepreneur, and urban employment. The outcome of the research is that education of youth has consistently positive and significant correlation with livelihood option which is outside of agricultural sector. The more academic achievements that respondents get, the more reasonable their expectation of success in outside farming relative to agriculture. On the other hand, the larger land holding that their parents have, the lower possibility in choosing a livelihood outside of agriculture over farming. Therefore, it implies that better land access will encourages youth to approach agricultural works.

Keywords: livelihood choice; rural youth; rural livelihood

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1. Introduction

Agriculture remains the top economic livelihood for most rural households, while in speedily developing and transforming regions, the effective agricultural practices can bring through and sustain rural livelihoods which depend on the natural resources (Dzanku, 2015; Gregoire, 2011; Smith, Hudson, & Schreckenber, 2017; Tang, Bennett, Xu, & Li, 2013). Moreover, organic farming can ensure alternative livelihoods are stable and sustainable, especially in situations where available land can be managed optimally (Qiao et al., 2018). But, the labor in farming is crucial factor in livelihood choice, especially rural youth who is the future generation in farming system. A heavy shortage in agricultural labor has produced in a decline grain and crop acreage and also the efficiency of farm utilization (Qian, Wang, & Zheng, 2016).

In Indonesia, labor absorption in the agricultural sector in 2010 was around 38.69 million workers or around 35.76% of the total

employment. In 2014 employment decreased to 35.76 million workers or 30.27%. Data on employment in the agricultural sector only comes from the activities of the primary agricultural sector, not including the secondary and tertiary sectors of the agribusiness system and business. The main problem of employment in the agricultural sector, namely the existence of the age of productive labor and the level of education. Based on Statistics Indonesia data, the average growth of labor in the agricultural sector experienced an increase of 0.64% per year in the period 2005-2009, and a decrease of 1.49% per year between 2010 and 2014. The decline in the growth of the largest workforce is precisely in the youth age group, which is between the ages of 15 to 29 years with an average reduction of 3.41% per year (Ministry of Agriculture Republic Indonesia, 2015).

Employment in agriculture is an indicator of sector development and provides guidance on sustainability and farming youth, responsive to new development efforts and entrepreneurial capacity (Chiritescu, Andrei Daniela, & Kruzslcika, 2015). Rural youth enter the work of agribusiness in response to rural needs that are

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clearly felt coupled with the tangible benefits of modern agricultural and agribusiness opportunities (Haggblade et al., 2015) and livelihood transition of farm households influenced by nonfarm households (Bhandari, 2013). Furthermore, rural areas provided wide spaces for the fast increasing urban capital and had comparative advantage in small-scale life (Kuhmonen, Kuhmonen, & Luoto, 2016; J. Liu, Liu, & Yan, 2016). However, rural businesses exit the market mainly due to lack of profitability or finance (Nagler & Naudé, 2017), while social connections are critical to find business opportunities and obtain investment capital (Tian, Guo, & Zheng, 2016).

Human and physical capitals, equipment provision, environmental income influences livelihood choice which is important to all livelihood strategies (Labao, Naval, Yap, & Yap, 2017; Walelign & Jiao, 2017; Wu, Li, & Hou, 2017). Land access and education are crucial to young people to gain their goals in agriculture (Bezu & Holden, 2014; Kidido, Bugri, & Kasanga, 2017; Roudart & Dave, 2017) where agro-climatic conditions are favorable in farming influence livelihood choice in agriculture (Davis, Di Giuseppe, & Zezza, 2017). Meanwhile, major factors defining young people to migrate are household and individual level, bad infrastructure, general service factors and environmental conditions (Deotti, Laura; Estruch, 2016; Leibert, 2016; Qin & Liao, 2016; Rauhut & Littke, 2016; Wiest, 2016). Furthermore, the important factors which influences off-farm employment decisions are age and education, wage and crop prices (Henderson, 2005; Z. Liu & Liu, 2016). And education become critical because it can helps to explain the wealth in agricultural households (Edirisinghe, 2015). The low education in rural regions would sharpen livelihood vulnerability of low income farmer and threaten the sustainable of household livelihoods (Wang et al., 2016).

In addition to increase welfare, livelihood improvement interventions with effective program implementation is needed, while regional policies which expand the opportunity space are needed to support the development and improvement of innovation systems to accelerate the creation of youth that can lead variety of agricultural employment activities (Fisher et al., 2017; Jiao, Pouliot, & Walelign, 2017; Kararach, Hanson, & Léautier, 2012; Martin & Lorenzen, 2016; Steenbergen, Marlessy, & Holle, 2017). Perceptions on individual household income

express that the most participating young people considered higher production and intensiveness of harvesting (Oyedele & Adenegan, 2017). Moreover, entrepreneurial skills are contribute in the stability of livelihood diversity behavior and decreasing of poverty (Fred M. Dzanku, 2015; Gautam & Andersen, 2016). Increasing the farmers' income and also consider to the local institutional and non-institutional arrangements by improving infrastructure and water management sustains farmers to adopt different livelihood strategies to attain their livelihood purposes (Bernier, Sultana, Bell, & Ringler, 2016; Méndez-Lemus, Vieyra, & Poncela, 2017; You & Zhang, 2017). This study addresses the problem between livelihood choices and their determinants of rural youth.

2. Research Methods

This research was used survey data of young people in rural East Java, Indonesia with 200 rural young people respondents by random sampling based on Lemeshow, Hosmer Jr, Klar, & Lwanga (1990) and it was conducted in 2017. This study was conducted in two regencies, Mojokerto and Ngawi that is not only classified as a rural area but also close to an industrial area in another city or district.

The force factors of livelihood option was analyzed by multinomial logit with random utility model (Maddala, 1983). Therefore, response probabilities for multinomial logit model of this study with four categories as follows,

$$pr\left(y = \frac{j}{x}\right) = \frac{\exp(X\beta_j)}{[1 + \sum_{j=1}^4 \exp(X\beta_j)]}, j = 1, \dots, 4$$

where j represents the alternative livelihoods including Agriculture; Non-agriculture employment; Entrepreneur in non-agriculture sector and Urban employment. X is a vector which represents factors that associate with the choice of livelihood of rural young people. The coefficients on the explanatory variables vary for each category. The factors which expected to impact livelihood option of young people include age, education, currently student, married status, farm size of parents, number of siblings in farm sector and number of siblings migrated. The hypotheses of this study is the availability of land for farming will become the reason of young people to choose agricultural livelihood.

3. Results and Discussions

3.1. Main Characteristic of Sample

Table 1. provides information about the percentages of young people' education level both in Mojokerto and Ngawi Regencies with the total respondents of 200 people and illustrates about the percentages of married status, living together with parents, the averages of age and the amount of siblings in both regencies. The largest quantity of education level of youth was in elementary school by 38% and followed by junior high school which amounted for 33% and senior high school by 19.5 %.

However, the lowest number of education level of young people in East Java was higher education. Moreover, only 16.5 respondents was married and 90.4 % live with their parents with the average age of around 21 years old and also they have sibling around one to two.

Table 1. Main traits of sample

	Mojokerto Regency	Ngawi Regency	All
Sample size	100	100	200

3.2. Parent Characteristics

Table 2. Parent Characteristics of Youth Sample in East Java

	Average (mean)
Age of parent (year)	51.69
Highest formal grade completed (year)	7.90
Highest non-formal grade completed (year)	0.06
Farming experience (year)	23.60
Number of own children (person)	3
Number of own children currently living with household (person)	2
Number of member in household who involved in farming activity (person)	2
Household income (IDR/year)	20,718,000
	Percentages (%)
Inherit occupation by parent	82.5

On average, parents of male and female youth in research areas are over 50 years old and have been educated for almost 8 years. While the length of non-formal education is relatively small, less than 1 year. However, on average, the parents

	Mojokerto Regency	Ngawi Regency	All
Percentages (%)			
Education level			
▪ Elementary school	41	35	38
▪ Junior high school	21	45	33
▪ Senior high school	27	12	19.5
▪ Higher education	11	8	9.5
Married	22	11	16.5
Live with parents	94	87	90.5
Average			
Age	21.41	21.16	21.29
Number of siblings	2.1	1.82	1.96

of the respondents have more than 20 years of farming experience with the number of family members working in the agricultural sector is 2 persons.

3.3. Location Characteristics

Table 3. Location Characteristics of Youth Respondents in East Java

	Average (mean)				
Distance of respondent's house location to city (km)	14.88				
Percentages (%)					
	Very adequate	Adequate	Quite adequate	Inadequate	Very Inadequate
Condition of agricultural infrastructure					

Irrigation	18	55.5	13	10.5	3
Road access to market	26.5	62	11	0.5	0
Transportation	27.5	55	13.5	3	1

The distance of respondent's house location to the city on average is almost 15 km. The condition of agricultural irrigation infrastructure is considered adequate by 62%, while 26.5% rate is sufficient thus there is no problem in irrigation

infrastructure in the research area. Likewise with the access road to the market and transportation there are no obstacles, because the respondents rated both of infrastructure tend to be adequate.

3.4. Farming Risk Characteristics

Table 4. Farming Risk Characteristics of Youth Respondents in East Java

	Percentages (%)				
	Very large	Large	Quite large	Small	Very small
Risk of price fluctuations	1.5	51	6	39.5	2
Risk of marketing	11.5	41	6.5	41	0
Risk of plant pests and diseases	1	42.5	7.5	48	1
Risk of climate and weather	3	42.5	6	48	0.5

Some respondents considered that the risk of fluctuations in the selling price of food commodities tend to be very large (51%), while others assess small (39.5%). Respondents who already have clear market access tend to rate fluctuations in product prices tend to be small, but vice versa if the targeted market has not been determined, then the respondents feel the risk of fluctuations in product prices become very large. Marketing risk is considered small respondent because access road to market is considered adequate. In addition, climate and weather risks tend to be small for food commodities as well as the risks to plant pests and diseases.

3.5. Livelihood Choice

Table 5. Livelihood choice by male and female youth in East Java

	Percentages (%)
Agricultural sector	23.5
Engaged in off-farm wage employment	20
Engaged in business	33
Urbanization	23.5

Youth sampled in this study who were interested in agriculture for livelihoods were only 23.5%, while 33% chose livelihoods for entrepreneurship outside the agricultural sector. Interest in off-farm wage employment or non-agricultural sectors is 20% and the remaining 23.5% prefer urbanization by finding livelihoods in other areas.

Table 6 presents the results from multinomial logit model where agriculture sector is the reference livelihood category in presented model.

Table 6. Multinomial logit model of livelihood choice determinant factor by rural youth.

Variables	Non-agriculture employment	Entrepreneur in non-agriculture sector	Urban employment
Age	-.0481	-.275 (**)	-.522 (****)
Education (year)	.326 (***)	.366 (***)	.608 (****)
Currently student	.137	-1.169 (*)	-.149
Married status	-.043	1.103 (*)	1.749 (**)
Farm size of parent (hectare)	-1.469 (**)	-1.720 (***)	-1.202 (**)
Number of siblings in farm sector	-.529 (*)	-.565 (**)	-.430
Number of siblings migrated	1.170 (**)	.573	1.575 (***)

Note: Agriculture is reference livelihood category. The declared values are coefficients followed by standard errors in parenthesis. Significance levels by 10% (*), 5% (**), 1% (***), 0.1% (****)

Age has consistently negative association with livelihood choice in outside of agriculture, but only significant with livelihood of entrepreneur in non-agriculture sector and urban employment. An increase in age decreases the likelihood of rural youth choosing a livelihood of entrepreneur in non-agriculture sector and urban employment over agriculture.

Education of youth has consistently positive and sharp association with livelihood choice which is outside of agricultural sector. An increase in education level increase the likelihood of rural youth selecting livelihood outside of agriculture. This seems to be influenced by the mind-set in the communities involved in agriculture, such factors are a less prestigious and decent choice, thus respondents who have a higher level of formal education tend to prefer decent work outside of agriculture.

The young people who currently learning in school are more possible to choose entrepreneur in non-agriculture sector than those who are no longer school pupils. This is probably because rural youth who are still in school have higher expectations of pursuing their purposes through educational way than rural youth who are no longer achieving education. More education increases the likelihood of choosing entrepreneur in non-agriculture sector.

Married status has positive and significant correlation with entrepreneur in non-agriculture sector and urban employment. Respondents who married are probably choosing urban employment as choice of livelihood, maybe because married youth have commitments to their family. Married status also has a negative relationship with entrepreneur in non-agriculture sector, although it is statistically significant only at 10%.

Parent's land area variable has significant influence with negative coefficient. This represents that the larger land holding that rural youth's parents have, the lower possibility in choosing a livelihood outside of agriculture over farming and the land area owned by their parents. Meanwhile, the choice of young people as a child to participate in agricultural sector will be higher. There is a possibility that if rural youth's parents have more land possibilities for their children to get a piece of farming land will also be higher, so that it will motivate young people to choose livelihood in agricultural sector.

Number of siblings in farm sector has consistently negative association with choice of livelihood outside of agriculture, and statistically

significant with non-agriculture employment and entrepreneur in non-agriculture sector. However only significant at 10% for livelihood option of non-agriculture employment. This may indicate that an increase in number of siblings in farm sector decreases the likelihood of respondent choosing entrepreneur in non-farm sector and non-agriculture employment. Rural youth tends to choose livelihood in agriculture if their siblings who work in farm sector are increase. Meanwhile, if number of siblings migrated increase, the livelihood option in urban employment and non-agriculture employment will increase. Young people who has more sibling works in other city tends to leave agriculture sector as their livelihood option.

4. Conclusions

Two major significant variables on youth decisions to choose in agricultural sector over other reference livelihood are education and land access. An increase in academic attainment increases the reasonable hopes of favourable outcome in outside farming relative to agriculture. But, an increase farming land which owned by parents decrease the possibility of young people to choose a livelihood outside of farming over agriculture. Therefore, agricultural sector will become significantly productive and competent to absorb the increasing labor force by making investment in sustainable agricultural technologies. And the private sector can also have a crucial position in facilitating the land access, finance and market of rural youth. Furthermore, the important policy implications related to youth in the agricultural sector are the support of sustainable rural investment in the form of infrastructure and increased investment in education.

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