

Factors Affecting Land Transfer Function in Paser Belengkong Sub-District, Paser Regency

Asman¹, Yuli Setiowati²

¹(Agribisnis, STIPER Muhammadiyah Tanah Grogot, Indonesia)

²(Agribisnis, STIPER Muhammadiyah Tanah Grogot, Indonesia)

Abstract: This research was conducted from December 2016 until January 2017 in PaserBelengkong Sub-district, Paser Regency, East Kalimantan, considered data from the Agriculture and Plantation Service in 2015 that Paser Regency, PaserBelengkong sub-district was one of the sub-districts with the most transfer function of agricultural land. Based on the results of analysis and discussion that had been carried out, the following conclusions can be drawn from the present study, first, the factors that affect land conversion from the food crop agriculture sub-sector to other sub-sectors in PaserBelengkong Sub-District, were land area (X6) and land productivity (X7), second, the current condition of land transfer function had high concerned, therefore it was necessary to control land transfer function in order to avoid the agricultural land decreased and in accordance with its designation.

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I. Introduction

Land is a strategic natural resource for development. The physical development sector requires land, such as in the industrial sector, agriculture sector, forestry sector, housing sector, mining sector and transportation sector. Along with the increasing requirement for land, many investors both from the state and private sectors have provided job opportunities which ultimately have an impact on increasing the demand for living standard and open job opportunities. The demand for land becomes increasing, which is driven by population growth, while the area and availability of land are fixed due to the lack of government in opening new land. This land transfer function causes utilization of land unfavorable in agriculture. and this greatly threatens existing agricultural activities, resulting in less agricultural production.

Paser Regency had a fairly large agricultural area and also participated as a contributor to food availability on a provincial scale. However, oil palm expansion to develop economic in Paser Regency causing the demand for land to is increasing. Table 1 shows that the area of agricultural land in Paser Regency had decreased.

Table 1. Land Usage (Ha) in the last 5 years (2009-2013) in Paser Regency

| No. | LAND USAGE | YEAR | | | | |
|-----|------------------------|--------|--------|--------|--------|--------|
| | | 2009 | 2010 | 2011 | 2012 | 2013 |
| 1 | Rice Planted | | | | | |
| | - One time | 6.536 | 4.838 | 4.477 | 3.838 | 3.431 |
| | - Twice | 2.259 | 1.111 | 1.017 | 1.365 | 2.197 |
| | - ≥ Three Times | 34 | 25 | 15 | 5 | 27 |
| | Total | 8.829 | 5.974 | 5.509 | 5.208 | 5.655 |
| 2 | Not Planted Rice | | | | | |
| | - Planted Other Crops | 0 | 793 | 3.920 | 3.594 | 928 |
| | - Not Planted Anything | 6.246 | 7.619 | 3.961 | 4.857 | 6.248 |
| | Total | 6.246 | 8.412 | 7.881 | 8.451 | 7.176 |
| | Total Rice field | 15.075 | 14.386 | 13.390 | 13.659 | 12.831 |

Source: Data from the Department of Agriculture and Plantation of Paser Regency, 2015.

This issue must be solved immediately considering the negative impact on community. Agricultural land transfer function, especially in rice fields, impacted the availability of staple foods in society, especially rice. If did not find out the solution to this problem and the problem greatly affected food security, community had to import it because agricultural products especially rice did not fulfill their needs, which is the implication of land transfer.

Agricultural land that has been converted or transferred to other uses besides agricultural sector had small chance of being turned back into agricultural land. If this problem was not handled and paid special attention by all stakeholders, it would increase the high rate of land conversion and the narrowing of fertile agricultural land in Paser Regency, especially Paser Belengkong Sub-District which has a direct impact on food security. According to Martanto, Rachmat (2012), if there is a land conversion in a place or location, the area of land will be even greater".

The government need to give special attention in order to control land transfer function. The increase number in the need for land was caused by the economy development and the increasing number of people which increased the need for land and the lack of attention from the government caused an increase in land transfer function from year to year, besides the increase in oil palm plantations and housing. The lack of clarity about the RTRW (Regional Spatial Plan), increased the number of land transfer function. Based on the information described above, problems that considered to be investigated were factors affecting land transfer function in Paser Belengkong Sub-District, and environmental changes due to land transfer function. The purpose of this research was to determine factors affecting land transfer function in Paser Belengkong sub-district, as well as to find out environmental changes due to land transfer function

II. Material And Methods

This study was conducted from December 2016 until January 2017 in Paser Regency, East Kalimantan, namely in Paser Belengkong Sub-District which includes 15 villages namely Pasir Belengkong Village, Suatang Keteban Village, Seniung Jaya Village, Keresik Bura Village, Suatang A Village, Suliliran A Village, Suliliran Baru Village, Laburan A Village, Laburan Baru Village, Sunge Batu Village, Sangkuriman Village, Damit Village, Olong Pinang Village, Bekoso Village and Lempesu Village.

Data was collected using snowball sampling method. The first step was to find the first sample to be interviewed or asked for information. Next, the first sample designated the second sample to be interviewed according to the requirement and so on until the 35th sample. The number of sample was 35 farmers covered 15 villages in Paser Belengkong Sub-District, in which the population was considered to be normally distributed.

Data was analysed to obtain factors influenced farmers to carry out the land function transfer from the agricultural sub-sector to other sub-sectors with quantitative methods using multiple regression analysis.

The multiple regression model equation is as follows:

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \epsilon \dots \dots \dots (3.1)$$

Where :

Y : Dependent Variable

α : Constant value to be obtained

β_i : coefficient

x1 : education level of farmer (elementary, junior high school, high school, college and non-school)

x2 : Family Dependents (person)

x3 : Income from Agriculture Sector (IDR)

x4 : Agricultural Capital (IDR)

x5 : Tradition of Mutual Cooperation (Day)

x6 : Land Area (ha)

x7 : Land productivity (tons)

x8 : Number of Labor in agriculture sector in the family (person)

ϵ : Error

III. Result

This research used survey which distributed to farmer households who had sold land in the period 2006 to 2015. The analytical method used to determine the factors that influence land transfer function was the multiple linear regression analysis method. The dependent variable included in the model is the area of land that the transfer functions was denoted by Y, and the independent variable was denoted by X. The independent variables included in the model was following: 1). Farmer Education 2). Family Dependents 3). Agricultural income 4). Agricultural Capital 5). The tradition of mutual cooperation 6). Land Area 7). Land Productivity and 8). Number of Labor in agriculture sector in the family.

Table 2. Results of the Estimation towards Factors Affecting Land Function Transfer in Paser Belengkong Sub-District.

| Variable | Coeffisient | Standard Error | t- count | Sig. |
|------------|-------------|----------------|----------|------|
| (Constant) | -1.269 | 1.087 | -1.168 | .253 |
| X1 | -.185 | .129 | -1.436 | .163 |
| X2 | -.824 | .436 | -1.889 | .070 |
| X3 | 2.044 | .000 | .752 | .459 |
| X4 | -9.502 | .000 | -.177 | .861 |
| X5 | -.003 | .182 | -.018 | .985 |
| X6 | .452 | .220 | 2.051 | .050 |
| X7 | .944 | .270 | 3.501 | .002 |
| X8 | .756 | .430 | 1.758 | .091 |

F – Count : 8,77

R : 0,854

R Square : 0,730

Adjusted R Square : 0,647

Source: Primary data processed, 2017.

The coefficient of determination R² from the alleged function reached 85.4% while the value of Adjusted R Square was 64% percent. This shows that the independent variables included in the model were able to explain the behavior of land transfer function by 64% while the remaining 36% was explained by other variables which were not included in the model. Based on the results of multiple linear regression, a mathematical relationship model between the area of land transfer functions from the agricultural sub-sector to oil palm plantations with the factors that influence was described as follows:

$$Y = -1.269 - 0.185 X_1 - 0.124 X_2 + 2.044 X_3 - 9.550 X_4 - 0.003 X_5 + 0.452 X_6 + 0.944 X_7 + 0.756 X_8$$

This equation shows that there were factors that significantly affect the area of land that changes function from the agricultural sub-sector to oil palm plantations. The analysis results indicate that the variables that have a real and non-significant effect were (X₁) Farmer Education (X₂) family dependents, (X₃) Income in Agriculture, (X₄) Agricultural Capital, (X₅) Mutual Cooperation Tradition, (X₆) Area Land, Land Productivity (X₇) and Number of Labor in agriculture in the Family.

IV. Discussion

The regression results show that farmer education level (X₁) had a negative relationship, meaning that if education level was higher, the area of land transfer function would decrease. The education level of land owners in Paser Belengkong Sub District can be classified as low. The educational level of farmers was mostly elementary school graduated, who were less able to adapt with technological changes in agriculture. Thus, the agricultural products were not able to fulfill their family needs.

The regression results show that the dependent family variable (X₂) had a negative relationship, meaning that if the dependents of the family increased, the average area of land transfer function would decrease. The number of land owned by farmers were reduced because the existing land had been divided for their children. The number of family dependents affected the income of farmers, meaning that the increased number of family dependents would increase the burden of live that must be fulfilled.

The regression analysis results show that the income of farmers (X₃) which owned before land transfer function had a positive relationship, meaning that if their income increased, the average area of land that was converted would increase. The low income of farmers in agriculture was the main reason for many people who live in villages at Paser Belengkong Sub District sold their land to alter their function becomes non-agricultural land.

The regression results show that agricultural capital (X₄) had a negative relationship, meaning that if the capital was reduced by one unit, the land transfer function would increase. The results of the regression analysis of the gotong royong tradition (X₅) show a negative relationship, meaning that if the mutual cooperation tradition in the community reduced, land conversion would increase.

The regression analysis results show that the area of land (X₆) which owned before land transfer function had a positive relationship, meaning that if the area of land increased, the average area of land would increase.

Land productivity (X₇) was the result of a unit or one area of land from the entire area of land harvested. The productivity of rice fields determined the income of farmers, the lower the productivity of rice fields, the resulted products were less and the income received by farmers were getting lower. The farmers who had low income due to low productivity decided to sell their land.

The regression analysis results show that the number of labor (X8) in the family before the land transfer function had a positive relationship, meaning that if the number of labor increased, the average area of land transfer function would increase. Labor in the family plays an important role in land transfer function. The high number of workers in the family cause the risk of land transfer function increased because the yields of their agriculture could not fulfill the needs of their family. Thus, they attempt to sell unproductive land or uncultivated land.

Table 3. : Information related to environmental changes due to land transfer function.

| No | Description | Number of Respondents (35People) | Percentage Respondents (%) |
|--------------|--------------------------------------|---------------------------------------|-------------------------------|
| 01. | Loss of biodiversity | 20 | 57 |
| 02. | The emergence of new migratory pests | 5 | 15 |
| 03. | Fire | 4 | 11 |
| 04. | Flood | 4 | 11 |
| 05. | Erosion | 2 | 6 |
| Total | | 35 | 100 |

Source: Data processed, 2017.

Data in the table 3 described that 57% of the respondents mentioned the loss of biodiversity was a problem of land transfer function. Before many land transfer function, there were many deer, deer, hornbills, and other animals in Paser Belengkong Subdistrict. However, after the land transfer function, the animals seemed to become extinct and degraded by the current land transfer function.

V. Conclusion

Based on the analysis results and discussion that had been carried out, the following conclusions can be drawn from the present study :

1. Factors affecting land transfer function from the food crop agriculture sub-sector to other sub-sectors were triggered by land area (X6) and land productivity (X7).
2. The current condition of land transfer function was quite worrying. Thus, it was necessary to control land transfer function to avoid the decline in number of agricultural land and ensure the land usage was in accordance with its designation.

Based on these findings, there are several recommendations that should be considered:

1. It is necessary to control changes in the function of agricultural land into non-agricultural which should involved the participation of all stakeholders considering the uncontrolled land transfer function.
2. Further research regarding uncontrolled land transfer function in Paser Belengkong Sub-district and the effects of changes in agricultural land functions on the economy of rural communities is strongly recommended

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