

# Does Migration Matter for Agricultural Productivity?

Naswatun Zikra, \*Fakhrudin

Development Economics Department, Faculty of Economics and Business, Syiah Kuala University, Indonesia

\*Corresponding author: fakhrudin@unsyiah.ac.id

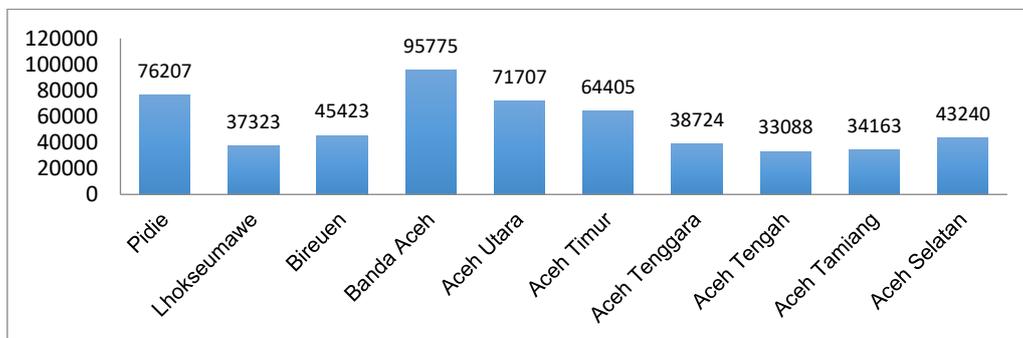
**Abstract**—This study aims to analyze the impact of out-migration on agricultural productivity in Pidie district using qualitative descriptive analysis model. The primary data from this study was obtained through direct interviews using questionnaires. The results showed that out-migration has no impact towards agricultural productivity. This is because of the advanced use of agricultural technology in farming. This means that agricultural technology has replaced the used of labor in agriculture, thus the migrant was no longer working in agriculture. As a result, the agricultural productivity was unaffected. Therefore, it is recommended for government and private sector to provide more jobs in non-agricultural sectors. Things that can be done include drawing more investors, establishing a regional owned enterprise and improving the quality of education in rural areas.

**Keywords**—Out-migration; Agricultural productivity, Labor

## I. INTRODUCTION

Economic development that gave rise to the center of economic growth turned out to be a problem in development. Center of economic growth which appears to be a new city has many advantages over the surrounding country. The various advantages of the city are reflected in the number of economic activities outside the agriculture sector. The city provides more jobs with higher wages, better quality of public facilities, and other advantages. As a result, the immigration is happened from village to city.

The existence of Banda Aceh city as a center of government and center of economic activity along with center of education in Aceh Province became a reason for residents to migrate to Banda Aceh. Pidie District is one of the closest cities to Banda Aceh City and the second largest area of out-migration in Aceh Province (Figure 1). Migrant populations are dominated by people who are highly educated and are in productive age. According to Todaro and Smith (2006: 94) The migration pattern raises concerns that the areas left behind will experience brain drain or intellectual resource weakening.



Source: Statistic Center of Aceh Province, 2015 (processed)

FIGURE 1. OUTGOING MIGRATION FOR LIFE OF THE 10 LARGEST REGENCIES AND CITIES IN ACEH PROVINCE IN 2015

In addition, brain drain can also be caused by internal factors in Pidie District. As yet, the economy in Pidie is very dependent on the agriculture sector. However, the high productivity of the agriculture sector has not been able to improve the welfare of the Pidie community, even during the period 2014-2017, while the poverty rate in Pidie has increased relatively. This encourages the workers in Pidie to migrate to other regions which promises a higher level of welfare.

According to Miriam N, et al (2014) migration from rural to urban areas has a negative impact on rural areas. Migration will cause rural villages to lose agriculture labor, decrease rural population and decrease agriculture output. This has caused the income of household to reduce, and hence the level of poverty increases.

On the other hand, workers who migrate to the city will shift from the agriculture sector to other formal sectors in the city. The reduction in the number of workers in the agriculture sector has reduced the output. In the long term, there will be more reduction in production capacity and do not rule out the possibility that Pidie would import to meet regional needs.

## II. LITERATURE REVIEW

### A. Migration

Migration was the movement of a person or group of people from the origin area to the destination area (Nugroho and Pitoyo; 2917). Lee (1966) stated that migration was a permanent or semi-permanent place of residence without any limitations regarding the distance traveled, while Ikhsan and Wali (2014) stated that migration was one of the population dynamics which was generally influenced by the need to find a decent livelihood. This feasibility could be assessed from a better economic, educational, health, social, cultural and political perspective compared to the area of origin.

In Okhankhuele (2013), Todaro (1997) concluded that the factors influencing the decision to migrate are varied and complex, among others are social factors, physical factors, demographic factors, cultural factors, and communication factors. Hart (in Hanafie, 2010: 80) states the extent of agriculture land owned by farmers determines the decision to migrate where the narrower the land is controlled, the greater the time allocated by farmers to increase income by working in the non-agricultural sector with little marginal productivity.

### B. Labor

Neo-Classical Theory states that economic development is determined by the number of additional factors of production and technological progress (Sukirno, 2006: 264). Workforce is one of the factors that decrease agricultural production due to migration. This means that the development of rural economies will eventually constant if agriculture labor continues to move to the city. Adisasmita (2005: 12) said that migration caused the condition of the area left behind to become increasingly an expert labor deficit. The proportion of dominant migrants who are young and have high education and skills makes the availability of highly valuable labor in rural areas falling. Todaro and Smith (2006: 401) explain that migration has doubled labor supply in the city to the proportion of migrants of productive age who have high skill and education, whereas the reserves of valuable labor in the village are decreasing.

### C. Agriculture Productivity

The reduced in labor will eventually reduce the productivity. Minimum capital investment causes low levels of output and agriculture productivity, whereas the main factors of production are land and labor. (Todaro & Smith, 2006: 529). Miriam N's research, et al (2014) proved that the contribution of the performance of the agriculture sector in Nigeria is declining, as a result of the increase in rural-to-urban migration, especially by young people. Thus, the Gross Domestic Product (GDP) in Nigeria is also decreasing.

## III. METHOD

### A. Study Area

This study analyzes the impact of out migration on agriculture productivity in Pidie District. Research locations are in three sub-districts, namely Mutiara Barat, Mutiara Timur, and Glumpang Tiga districts. The choice of the location is adjusted to the ability of the writer to reach the research area and respondents.

### B. Data Collection

This research use primary data obtained directly from respondents, namely the people of Pidie Regency, through direct interviews and in depth interviews using questionnaires.

### C. Population and Sample

The population in this study was the village apparatus in Pidie District and the households of the farmers, where one of the family members is migrate. Determination the sample is used a purposive sampling method. The sample in the first population is 9 respondents in the village, while the sample for the second population is 36 households.

#### D. Data Analysis

Data collection methods in this study use literature study methods and collect data by field survey. Data are collected through direct interviews and in-depth interviews using questionnaires.

### IV. FINDING AND DISCUSSION

TABLE I. THE ROLE OF MIGRANTS IN THE AGRICULTURE SECTOR BEFORE MIGRATION

No.	Response	Household	Village Devices	Total	(%)
1	Farm before migration	1	0	1	2.2
2	Not farming before migration	35	9	44	97.8
Total		36	9	45	100

Source: Field Survey, 2018 (processed)

TABLE II. EFFECT OF MIGRATION ON HOUSEHOLD EXPENDITURES

No.	Response	Number of Respondents	(%)
1	Less	27	75.0
2	More	9	25.0
Total		36	100

Source: Field Survey, 2018 (processed)

TABLE III. EFFECT OF LAND OWNERSHIP ON EXPENDITURES

No.	Spending	Have land	Do not have land	Total	(%)
1	1,500,000 - 2,499,999	6	9	15	41.6
2	2,500,000 - 3,499,999	3	7	10	27.8
3	3,500,000 - 4,499,999	5	0	5	13.9
4	4,500,000 - 5,499,999	3	3	6	16.7
Total		17	19	36	100

Source: Field Survey, 2018 (processed)

TABLE IV. EFFECT OF LAND OWNERSHIP ON MIGRATION OBJECTIVES (%) IN PIDIE DISTRICT

No.	Reasons for Migration	Have land	Do not have land
1	School / college	23.53	21.05
2	Looking for work / work	41.18	63.16
3	School and looking for work	23.53	15.79
4	Join husband / wife	11.76	0.00
Total		100.00	100.00

Source: Field Survey, 2018 (processed)

TABLE V. MIGRATION AND SENDING MONEY TO FAMILIES LEFT BY MIGRATION (%)

		Reasons for Migration				Total
		School / College	Looking for Job	School & Looking for Job	Join Husband /wife	
Migrants Send Money to the Family	Often	0	33.33	8.33	2.78	44.44
	Not often	2.78	19.44	5.56	2.78	30.56
	Never	19.44	0.00	5.56	0.00	25.00
	Total	22.22	52.78	19.44	5.56	100.00

Source: Field Survey, 2018 (processed)

The agriculture sector is one of the leading sectors in Pidie District. In 2016, the rice cultivated of Pidie Regency was 46,755.20 ha and is the second largest rice harvested area in Aceh after the North Aceh district. An agriculture sector is the largest sector of absorbing workers in Pidie District (Aceh Province in Figures, 2017: 213).

Although many people in Pidie who have occupation in non-agriculture fields, however, they still allocate time to cultivate both directly and indirectly by hiring workers or renting their land to other farmers.

These days, farmers are considered a tiring work with low income. Both landowners and non-land owners do not want their children to be a farmer. Many farmers encourage family members to work in the non-agriculture sector. However, because the non-agriculture sector was relatively undeveloped in Pidie, many people migrated out. The main cause of migration is no longer

limited to the desire to get jobs outside the agriculture sector but also because of continuing education and marriage reasons. This shows that migration is carried out in the productive age.

Furthermore, ownership of agriculture land also influences the purpose of migration. Income inequality that occurs between farmers who own land and farm laborers turns out to have an impact on the reason to migrate. Family members from landowners mostly migrate because of school, while family members from non-landowners migrate because of work. Despite having different reasons, these two reasons will bring migrants out of the agriculture sector and eventually work in other sectors.

In addition, the labor function also has been replaced by tractors, rice cutting machine, threshing machine and combination machine cutting and threshing. The presence of tractor machines and other machines makes the farmer's family landowners is no longer employ family members as farmers. At the same time, the families of farm workers lost their jobs. Therefore, out-migration of people in Pidie District does not negatively impact on agricultural productivity (TABLE II). This is because the migrants before migration are no longer laborers or not full laborers in the agriculture sector, so that when migrants come out there is no effect on agricultural production.

Labor does not have a major influence on the agricultural sector, this is based on the main reason migrants carry out migration. Landowners and non-landowners migrate to find other jobs in other areas (TABLE V). Migration makes household expenses change (TABLE III). migration for education will increase household expenses because there are additional education costs and other living expenses. Migration to work will reduce household expenditure because migrants already have income to bear themselves.

Furthermore, the lack of dependence of the agriculture sector on labor is shown by the main reasons for migrants to migrate. Both migrants from family landowners and non-landowners migrate to get jobs in other areas (TABLE V). Migration makes household expenditure change (TABLE III). When migrating for education, household expenses will be more for education and other living expenses, while migration to work will reduce household expenditure because migrants already have income to cover themselves.

There are differences in the expenditure of agricultural land owners and non-agricultural land owners (TABLE IV). The average expenditure of landowners is higher than those who do not own land. Most of the family members from landowners migrate to continue their education, while from landless families, they migrate to work.

Land ownership also influences children's involvement in the agriculture sector. The land owner is the authority of the capital so that the child is more likely to become a farmer because the land will be inherited by the child. While children who are not land owners will look for other jobs, because the income of farm laborers is not as big as the landowners. In addition, the presence of technology has shifted the role of agriculture labor.

Migration has a positive impact on migrant families and migrants themselves (TABLE VI). Migrants can get enough work and income to pay for their own lives, so that they are less dependent to their parents. On the other hand, migrants who continue their education never send money to their families. However, respondents who attend school will be better at finding work because they have a good educational background.

## V. CONCLUSION

Employment in the agricultural sector began to be saturated, where the number of farm laborers in the agriculture sector exceeds the demand for labor. This is evidenced by the amount of agriculture productivity that is relatively different after migrants leave. Nevertheless, the agriculture sector is a sector that absorbs the most labor in Pidie.

Along with the use of technology in the agriculture sector, farm laborers began to lose their jobs and encouraged the labor to move to other sectors both in Pidie and other regions. However, the use of technology has increased the productivity of the agriculture sector and begun to shift from labor-intensive to capital-intensive.

Based on the findings, the study suggests the following:

1. The government must provide more jobs in Pidie Regency, especially in the non-agriculture sector, so that workers who fail to enter the agriculture sector have other options. Things that can be done such as attracting outside investors, establishing a State-Owned Enterprise in Pidie District and improving the quality of Vocational High Schools there.
2. The government needs to develop technological innovation, so that it can support the production activities of the agriculture sector, and thus encourage more advanced economic growth.

## REFERENCES

- Adisasmita, Rahardjo. (2005). *Regional Economic Basics*. Publisher Graha Ilmu, Yogyakarta.
- Central Statistics Agency (2017). *Aceh Province in 2017 Numbers*. Aceh

- Hanafie, Rita. (2010). *Introduction to Agricultural Economics*. Publisher CV Andi Offset, Yogyakarta.
- Ikhsan and Wali, M. (2014). Analysis of Migration to the City of Banda Aceh. *Indonesian Journal of Economic and Public Policy*.
- Lee, Everett S. (1966). A Theory of Migration. *Journal of Demography*. Vol.3, No.1 pp47-57.
- N, Mgbakor Miriam., O, Uzendu Patrick., & J, Usifo Ifechukwude. (2014). Effect Of Urban-Rural Migration By Youth On Agricultural Labor In Aniocha South Local Government Area of Delta State, Nigeria. *Journal of Research in Agriculture and Animal Science*.
- Nugroho, Setiyo & Pitoyo, Agus Joko (2017). Migration Flows in Indonesia 1908 - 2010. *Bumi Indonesia Journal*. Vol. 6 No. 4
- Okhankhuele, Omonigho T., and Opafunso, Olaniyan Z. (2013). Causes and Consequences of Rural-Urban Migration Nigeria: A Case Study of Local Government Area of Ogun Ogun Waterside, Nigeria. *British Journal of Arts and Social Sciences British Journal Publishing*.
- Sukirno, Sadono. (2015). *Development Economics: Processes, Problems and Policy Basics Second Edition*. Publisher Prenadamedia Group, Jakarta.
- Todaro, Michael P. & Stephen C. Smith. (2006.) *Economic Development Ninth Edition Volume 1*. Publisher Erlangga, Jakarta.