

HUMAN RESOURCE CHARACTERISTICS OF THE AGRICULTURAL SECTOR IN NORTH SULAWESI

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ABSTRACT

The agricultural sector in North Sulawesi is ranked first in its role in providing added value to the GRDP and labor. However, the rate of growth of production and labor productivity is relatively low and decreases over time. Building the agricultural sector is limited to the development of subsistence farming and increases human resources or competence in the farming business. This study aimed to identify the characteristics of farmers in North Sulawesi. The results of the descriptive statistical analysis using demographic, socioeconomic, and socio-cultural variables of farmers indicate that the quality of human resources in the agricultural sector in North Sulawesi is relatively low. Thus, government policies to improve the quality of the agricultural sector's human resources is urgently needed.

Keywords: Agricultural Labor, Demography Characteristics, Socio Culture, Socio Economy

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INTRODUCTION

The agricultural sector in Indonesia contributes to economic developments. Besides, it also provides food, as regional income, and involves rural laborers (Todaro, 2011). For the last decade, the agricultural sector is the main contributor to the Gross Regional Domestic Product (GRDP). In North Sulawesi, agriculture share 20% of GRDP in the period of 2014-2018. Of the 17 business fields in North Sulawesi, the agricultural sector absorbs the most labor in 2014-2018, with an average of around 30.84 percent.

High involvement of labor does not necessarily accelerate the growth of

agricultural output. Based on data from the Central Statistics Agency, in 2014-2018, the growth rate of the GRDP in the agricultural sector is getting smaller each year, with an average of 3 percent. In the agricultural sector, there are always elements of land, capital, labor, and management that cannot be separated. Along with population development, land requirements for housing, office, and government buildings are increasing, and in parallel, it decreases the agricultural land (Han & Lin, 2019). The limited land for agriculture certainly requires an increase in agricultural productivity (Chamberlain & Anseeuw, 2019). In

general, in 2014-2018, the labor productivity of the agricultural sector tends to increase. In 2018 it will reach 60.68 million rupiahs per year. However, this achievement is still relatively low when compared to other sectors.

According to Mayamsari and Mujiburrahmad (2014), developing agriculture is not only limited to the development of subsistence farming but also increases the human resources or competence of farmers in the farming business. The quality of human resources in the agricultural sector is often forgotten. Research on the characteristics of farmers in North Sulawesi also rare reported.

The success of the farming business depends on farmers' competence as the principal manager (Hasin& Smith, 2018). Farmers' competency can be seen from their characteristics. There are many factors related to farmers' characteristics that make it possible to increase the quantity and quality of their production (Mi et al., 2020). Puspadi (2003) mentions these factors, such as education, age, business experience, utilization of communication media, and land area. This study provides the characteristics of farmers in North Sulawesi.

MATERIAL AND METHODS

A descriptive statistical analysis was used in this study. According to Gozhali (2005), descriptive statistical analysis is an analysis used to provide a description of data, whether in the form of graphs, tables, or images. The descriptive statistical analysis is the basis of the overall structure of statistical science and still a powerful method for looking at the situation and distribution patterns of data collected (Sholikhah, 2016; Saparita, 2001). The descriptive analysis is a simple analysis, the results of the analysis can be an essential input for decision-makers (Agung, 2000)

The data used in this study were based Central Statistics Agency (BPS), which was consisted of the State of

Employment of North Sulawesi Province 2014-2018, survey of the agricultural census (SUTAS) 2018, Census Results in 2013, PDRB 2013-2018, and exchange rates farmers 2014-2018. The profile of the labor and household in the agricultural sector was analyzed based on those data. The results are presented in the form of descriptions, tables, and graphs and is strengthened with literature studies such as previous findings in journals and scientific reports relevant to this study.

RESULT AND DISCUSSION

Farmer characteristics can be grouped into three parts, namely, demographic characteristics, socio economic characteristics, and socio-cultural characteristics (Agunggunanto, 2011). The age, education, and the number of dependents of household members were included in the demographic characteristics. Variable area of arable land and income, including socioeconomic characteristics. Technology mastery variables included in socio-cultural characteristics.

Demographic Characteristics

Agricultural development supported by the quality of human resources. In turn, it will produce good output. Therefore, government policies that lead to agricultural educational development play an essential role. One indicator of quality human resources is educational level (Alkadri et al., 2001). In North Sulawesi, the quality of human resources is still relatively low by 2018. Figure 1 shows human resources working in the agricultural sector that was almost half dominated by people with primary school education or lower. A study reported by

Pertiwi (2015) indicates that the higher a person's education, the higher the income he provides. The quality of human resources, in general, can be improved through education. Educational development that leads to regional development is needed as an effort to improve the quality of human resources (Saparyati, 2008).

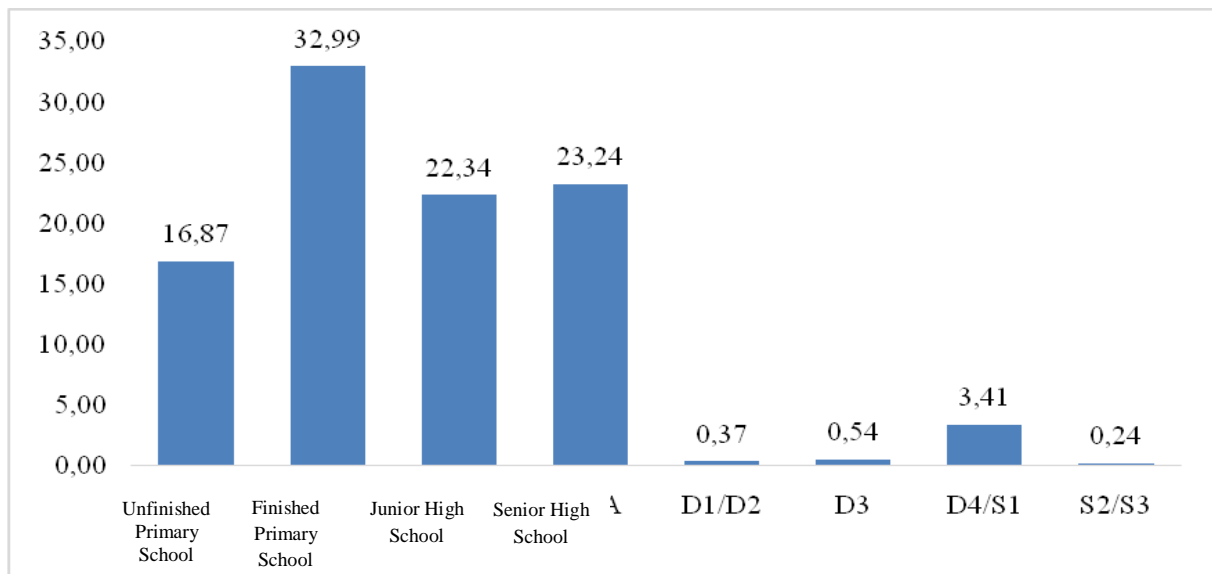


Figure 1. Percentage of Farmers According to the Educational Level in North Sulawesi in 2018. Source: SUTAS BPS, 2018.

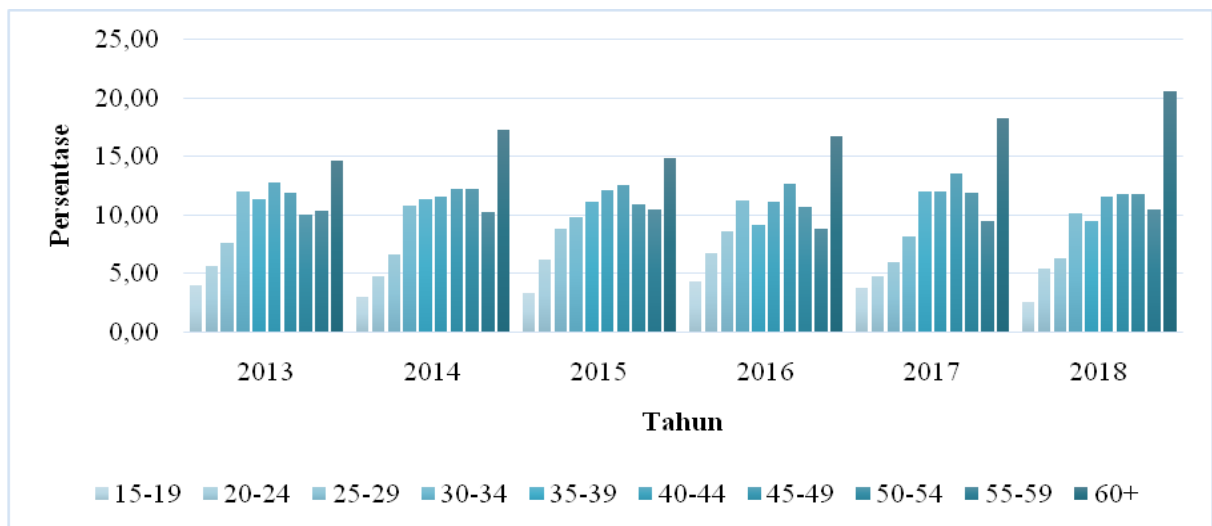


Figure 2. Percentage of North Sulawesi Population By Age Group 15 Years Old and Over Who Worked Weekly In The Agriculture Sector in 2013-2018. Source: Sakernas, BPS.

In addition to the level of education, age also affects the person's performance at work. Figure 2 indicates that there was a shift in the age of labor in the agricultural sector in North Sulawesi. In 2013, the proportion of labor in the agricultural sector was dominated by the age of 15-44, which was 53.20 percent. Whereas in 2018, 54.68 percent of the proportion of the agricultural labor dominated by the age of 45-64. The proportion of elderly workers at the age of 60 increased in 2018 by 1.4 percent compared to 2013.

The lack of interest in young workers in the agricultural sector is increasingly visible from year to year. The role of youth is certainly vital as the next generation for the sustainability of the agricultural sector. The existence of a lower of young farmers in the agricultural sector and the dominance of old farmers will impact on sustainable agricultural development, particularly on agricultural productivity, market competitiveness, rural economic capacity. They will further threaten food security and the sustainability of the agricultural sector (Susilowati, 2016).

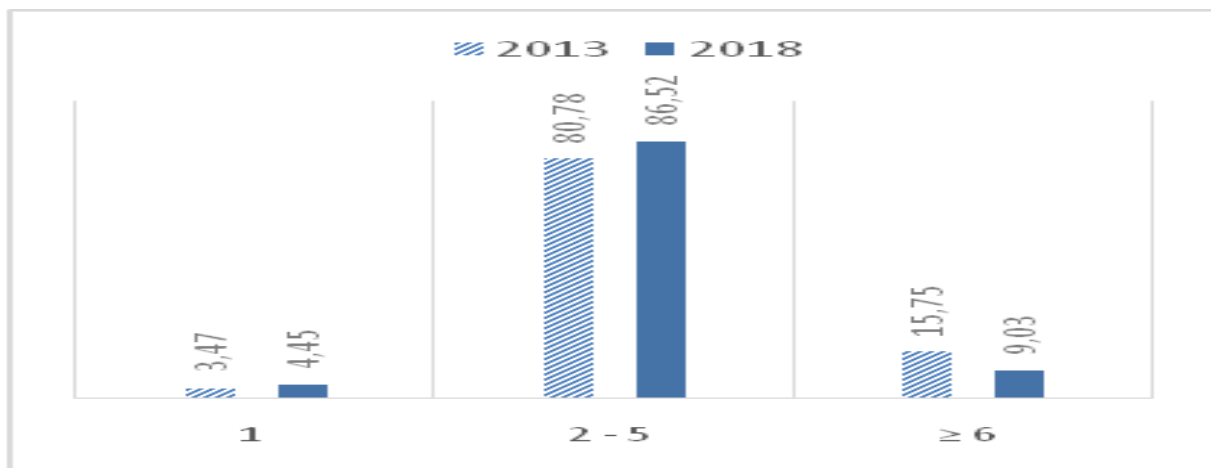


Figure 3. Percentage of Agriculture Business Households N North Sulawesi in 2013 and 2018. Sources: ST2013 and SUTAS 2018, BPS.

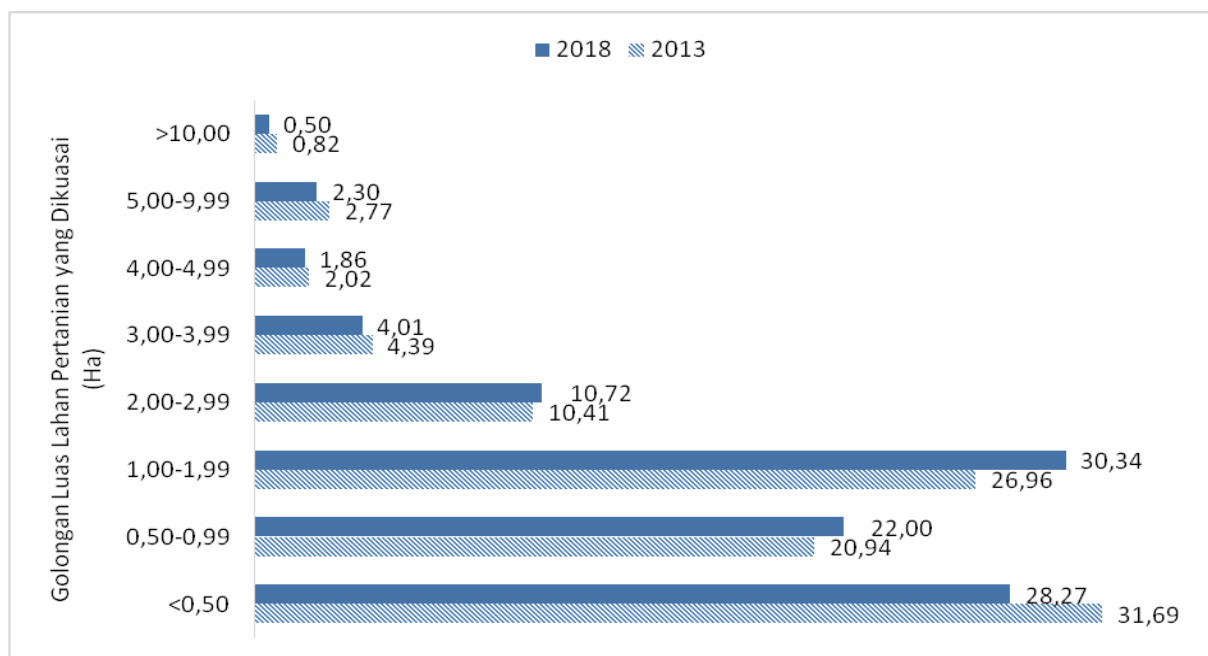


Figure 4. Percentage of Agricultural Households According To Land Area (Ha) in North Sulawesi in 2013 and 2018. Sources: ST2013 and SUTAS2018, BPS.

The number of household member in North Sulawesi is around 2-5 people. It illustrates in Figure 3, around 80 percent of the proportion of agricultural business households have a member of 2-5 people. The number of dependents for this household is moderate. This condition can be said to be quite good since the member is not significant. Dewi et al. (2018) revealed in contrast. The composition in households with 2-5 members. Most of them are leaving with their spouse. The

married family member will part with their parents or move to another place for job seeking. The implication, in some farm households, agricultural land is only cultivated with small family workers.

There was a decrease in the proportion of households with a large number of members in 2018. Besides, households with large members moved to the non-agricultural sector. A large number of household members can affect the level of expenditure, especially if the majority of

household members are still non-productive so that it can be one of the reasons households are categorized as vulnerable to poverty (Purwanto and Taftazani, 2018).

Socio-Economic Character

The percentage of employment in the agricultural sector decreased over the past five years, with an average decline around 5 percent. The results of the study by Tocco et al. (2012) show that one of the factors influencing a person's decision to switch from agricultural to non-agricultural work is land tenure. Land tenure is an important element in the sustainability of the agricultural sector. Land availability is very influential in supporting the output of agricultural sector output. If agricultural land is reduced and there will be limited innovations by farmers in working in the agricultural sector, the output produced by the agricultural sector will decrease further.

In 2018 there was an average decline in agricultural land held by agricultural households in North Sulawesi by 16.31 percent compared with 2013. This was due to a shift in land use from agriculture to non-agriculture. The average agricultural household in North Sulawesi occupied 812.95 m² of paddy land and 10,073 m² of non-paddy land in 2018. Figure 4 shows that half of the agricultural households in North Sulawesi possess agricultural land less than 1 Ha.

This low tenure condition has not changed significantly since 2013 until now. The land is one of the main capital in the agriculture sector. The lack of land possesses will undoubtedly affect the production and income of farmers. In addition to the availability of land, the low income in agricultural households also worsens farmers' condition. In labor economics, it is assumed that labor has the aim of maximizing utility value, namely that people are assumed to strive to achieve the goal of making themselves as happy as possible at the level of limited resources (Ehrenberg and Smith, 2012). Therefore, rationally a worker will respond positively to economic incentives (labor wages) and non-economic incentives (such as job convenience, work facilities, and guarantees for workers), and respond negatively (or avoid) economic disincentives to a job. Exchange Rate Farmers is one indicator that can describe the welfare of farmers, especially in rural areas.

Since 2014, the farmer exchange rates have not shown a significant increase until 2018. Over the last five years, the calculation of farmers' exchange rates in North Sulawesi has always been below 100. The level of welfare of farmers tends to be low since the income earned by farmers from their farming business indicates low.

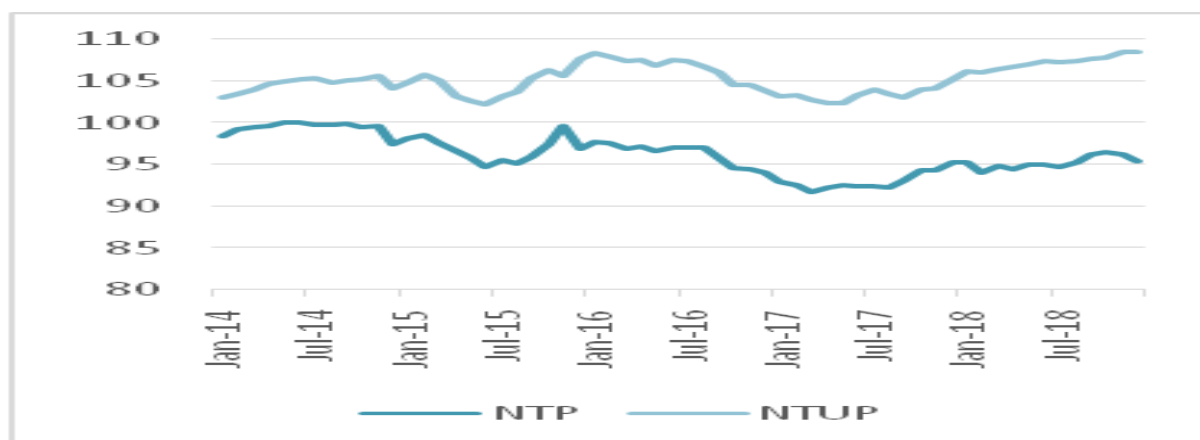


Figure 5. Development of farmer exchange rates and farmer business exchange rates in North Sulawesi in 2014-2018. Sumber: BPS

Tabel 1. Persentase Rumah Tangga Usaha Pertanian di Sulawesi Utara Menurut Subsektor dan Penggunaan Teknologi Mekanisme Pertanian Tahun 2018.

Agriculture Subsector	Agricultural Mechanization Technology	
	Use	Do Not Use
Food Crops Cultivation	51.55	48.45
Horticulture	18.78	81.22
Plantation	17.31	82.69
Animal Husbandry	5.7	94.3
Fishery (Aqua culture)	9.97	90.03
Catch isherly	15.61	84.39
Forestry	9.96	90.04

Source: SUTAS 2018.

The number of agricultural households in North Sulawesi shows an increase of around 3 percent from 253.5 thousand in 2013 to 263.4 thousand in 2018. It indicates that the agricultural sector is still in demand as the main occupation of households. There was a slight difference between farmers and agricultural sector entrepreneurs in terms of income. Agricultural Business Exchange Rates during 2014-2018 showed movements that tended to increase and were always above 100. This condition meant that the income level obtained by agricultural businesses was surplus compared to what they had to spend. When compared between farmers and agricultural entrepreneurs, the level of welfare of farmers is still below that of entrepreneurs in the agricultural sector.

Socio-Cultural Characteristics.

The industrial revolution 4.0 has penetrated all aspects of life, including the agricultural sector. Farmers in this era are demanded to be open and flexible to technological updates. The increase in agricultural production certainly does not escape from the use of technology. According to Fatchiya et al. (2016), the use of technology by farmers has a positive effect on productivity and the level of food security.

Based on BPS data, farmers in North Sulawesi who use the internet in their work are only around 16 percent in 2018. Table 1 explains that the use of agricultural

mechanization technology in all agricultural subsectors is still lacking in North Sulawesi except in the food crop subsector. Nearly 90 percent of agricultural business households do not use agricultural mechanism technology. This condition certainly slows the growth of agricultural sector production.

CONCLUSION

Farmer education in North Sulawesi is still relatively low. Of all farmers, half of them are graduated or unfinished elementary school. Farmers or agricultural sector workers are, on average, 44-64 years old and are still in the productive age. Farmers aged 60 years and over increased in 2018. The average number of members of agricultural households ranges from 2-5 people. From the socio-economic point of view, most of the farming households use land less than 1 Ha. The exchange rate of the agricultural business is quite good, and the value is above 100.

Conversely, the exchange rate of farmers is below 100—almost the same condition with demographic characteristics, socio-cultural characteristics that need to be increased. Farmers in North Sulawesi, for the most part, have not yet utilized the internet and agricultural mechanism technology.

Seeing the critical role of the agricultural sector in the economy of North Sulawesi, it is hoped that it can further support the development of the quality of

human resources in this sector. The support can be by developing innovations related to agriculture to attract the attention of young people in the agricultural sector, farmer empowerment training, and encouragement from the parties concerned.

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