

The Effect of Land Area, Labor, Fertilizer Subsidyon Agricultural Production In Indonesia

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| Pangihutan Syafriansyah Pasaribu¹ | Fitrawaty² | M. Fitri Rahmadana³ |

^{1,2,3} Postgraduae of Economics,
 Faculty of Economics,
 Universitas Negeri Medan,
 Indonesia



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ABSTRACT

The problem in this research is the increasingly depleting land area in the agricultural sector that occurred in Indonesia from 2010 to 2020, Employment in the agricultural sector has increased from 2010 to 2020, Instability of Agricultural Fertilizer Subsidies in the agricultural sector that occurred in Indonesia from 2010 to 2020, Production Agriculture for rice, potatoes, tomatoes, eggplant and chilies has increased from 2010 to 2020. The location of this research is in Indonesia. The scope of this research was carried out by focusing on discussing the influence of land area, labor, fertilizer subsidies on agricultural production in Indonesia from 1990-2020. The data analysis technique used in this research refers to the Error Correction Model (ECM) equation model by estimating short-term and long-term relationships between the variables Land Area, Labor, Fertilizer Subsidies and Agricultural Production in Indonesia from 1990-2020.

KEYWORDS

agriculture; labor; Indonesia

INTRODUCTION

Indonesia is an agricultural country which has consequences for the need for government attention to a strong and resilient agricultural sector, therefore one of the sectors that supports economic growth is the agricultural sector. Not only in the economy, the agricultural sector also plays a role in national development in order to achieve a sustainable economy (Ajija, 2011). Apart from agriculture, various other subsector commodities are the mainstay produced by Indonesia.

Development of the agricultural sector is an absolute requirement to improve people's standard of living, this is reflected in the government's policy where agriculture remains a top priority (Amin, 2013). The development of the agricultural sector in Indonesia has experienced very rapid progress, both smallholder and company-managed agriculture. This is due to adequate natural resources (SDA) and the large number of people (labor) working in the agricultural sector (Kamaruddin et al, 2022).

The following is agricultural production data in Indonesia from 2010-2020, namely as follows:

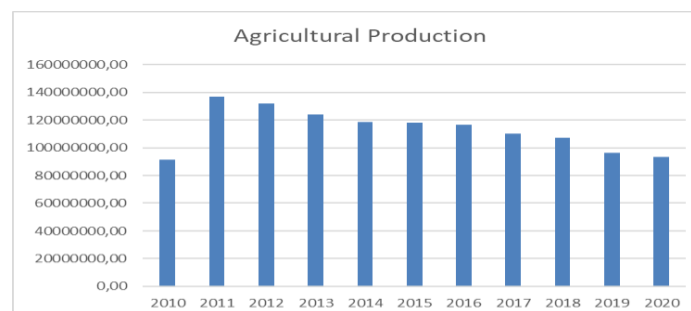


Figure 1. Agricultural Production in Indonesia in US Dollar units

It can be concluded from the agricultural production graph above that over a period of 10 years it tends to decline. This is caused by the increasing population and the imbalance between the area of land managed and that produced to support the increasing population. According to (Ariefianto, 2012), this increase in production can be increased through expanding land or increasing productivity.

The development of land area in the last 10 years in Indonesia, namely from 2010-2020, is depicted in the graph below, namely:

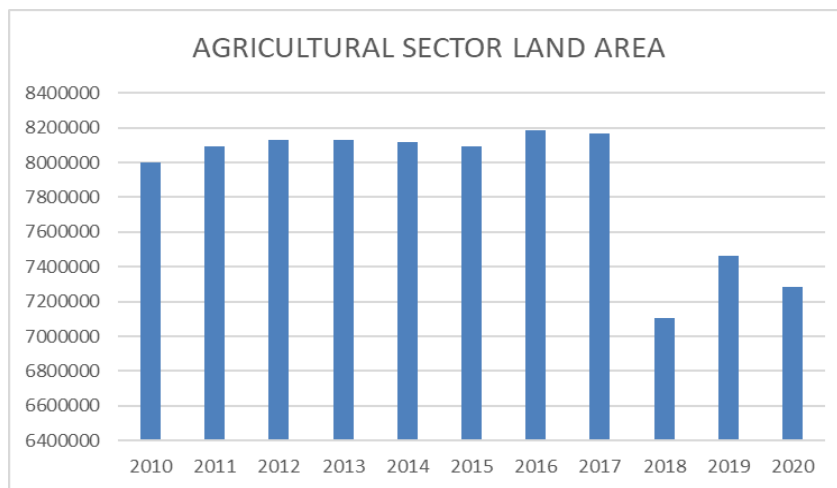


Figure 2. Graph of Land Area 2010-2020 (in ha)

Source: Central Statistics Agency

Based on Figure 1.4, the land area graph from 2010-2020 experienced fluctuations, where fluctuations are spikes or irregularities in everything that can be depicted in a graph. In 2017 the land area was 8,164,045 ha, while in 2018 it decreased to 7,105,145 ha (Laksana & Jember, 2016). This decline is due to an increase in land conversion and the increase in population every year which causes them to need a place to live, many investors who create businesses (hotels, restaurants, etc.) choose natural and cool places so they become their targets (Arimbawa & Widanta, 2017).

The following is a picture of the development of the agricultural sector workforce over the last 10 years, namely 2010 to 2020, namely as follows:



Figure 3. Employment Graph 2010-2020 (in%)

Source: Central Statistics Agency

The picture above shows that the number of workers from 2010 to 2020 experienced fluctuations. BPS (2019) explains that the workforce experienced a decline from 2015 to 2019 in line with the increase in the workforce and participation levels which can provide

an indication of economic potential in terms of increasing demand for labor. In 2020 the number of labor force increased to 7.07% from the previous 5.28%.

RESEARCH METHODS

The location of this research is in Indonesia. The scope of this research was carried out by focusing on discussing the influence of land area, labor, fertilizer subsidies on agricultural production in Indonesia from 1990-2020 (Maryoni, 2016). The economic variables as independent variables that will be studied are land area, labor, fertilizer subsidies and the dependent variable that will be studied is agricultural production in Indonesia from 1990-2020.

RESULTS AND DISCUSSION

The data on the development of agricultural land area for 1990-2019 in Indonesia is as follows:

The development of land area in the agricultural sector in Indonesia from 1990-2019 can be seen based on the table below. Starting in 1990, the development of land area in the agricultural sector in Indonesia tended to decline until 2000. However, in the following year, land area in Indonesia began to increase.

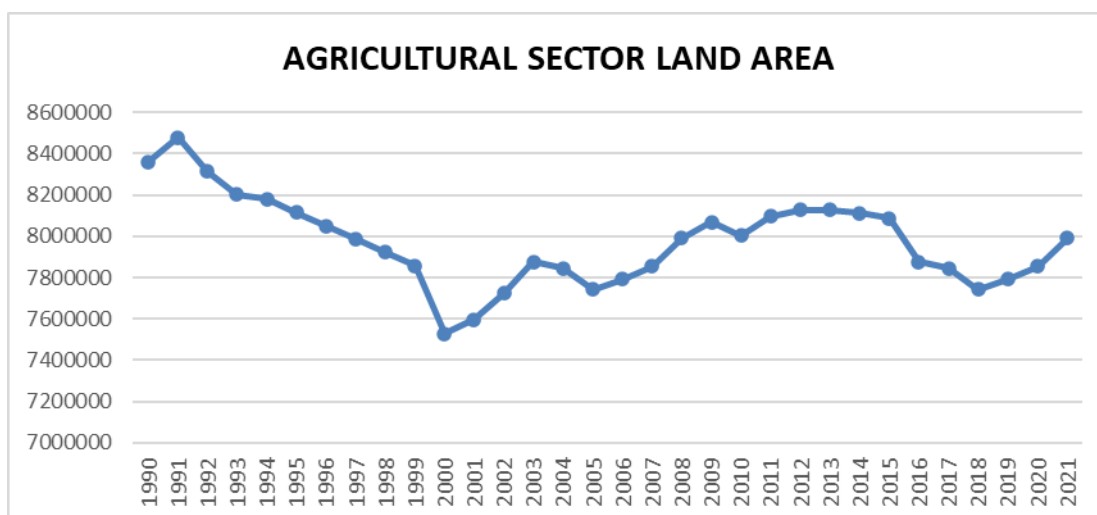


Figure 4. Agricultural Land Area Data 1990-2019 (in ha)

From the graph above, it can be seen that over a period of 30 years there have been fluctuations due to the increase in land conversion and the increase in population every year which causes them to need a place to live, many investors who create businesses (hotels, restaurants, etc.) choose natural places. and cool so it becomes the target (Harini et al, 2019).

The increase in labor, especially in terms of agriculture in Indonesia, can be seen based on the table below. In 1990-2006 the number of workers in the agricultural sector tended to increase every year. However, in subsequent years there was a decline in the number of workers.

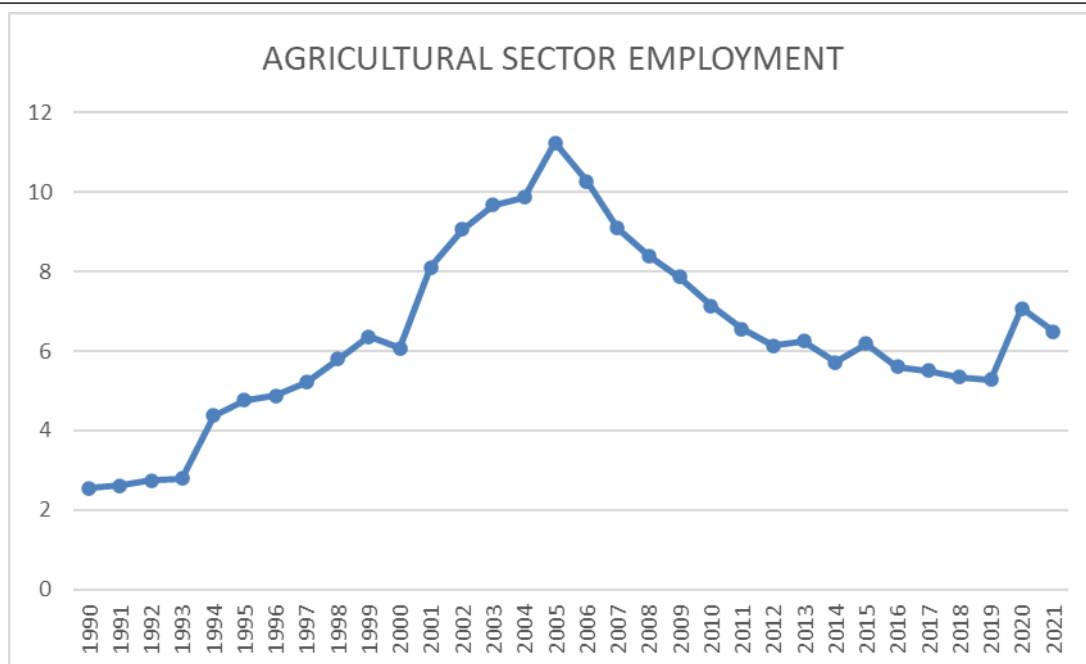


Figure 5. Data on Agricultural Sector Labor in Indonesia 1990-2020

The picture above shows that the number of workers over a period of 30 years has fluctuated. BPS (2019) explains that the workforce has experienced a decline in line with the increase in the workforce and the level of participation, which can provide an indication of economic potential in terms of increasing demand for labor. In 2020 the number of labor force increased to 7.07% from the previous 5.28%. According to (Hermawan, 2014), this happened due to the Covid-19 outbreak so that labor levels increased. This increase was caused by workers from big cities no longer working and finally deciding to return to their hometowns.

In 1990-2020, diesel production experienced increases and decreases which can be seen from the following graph:

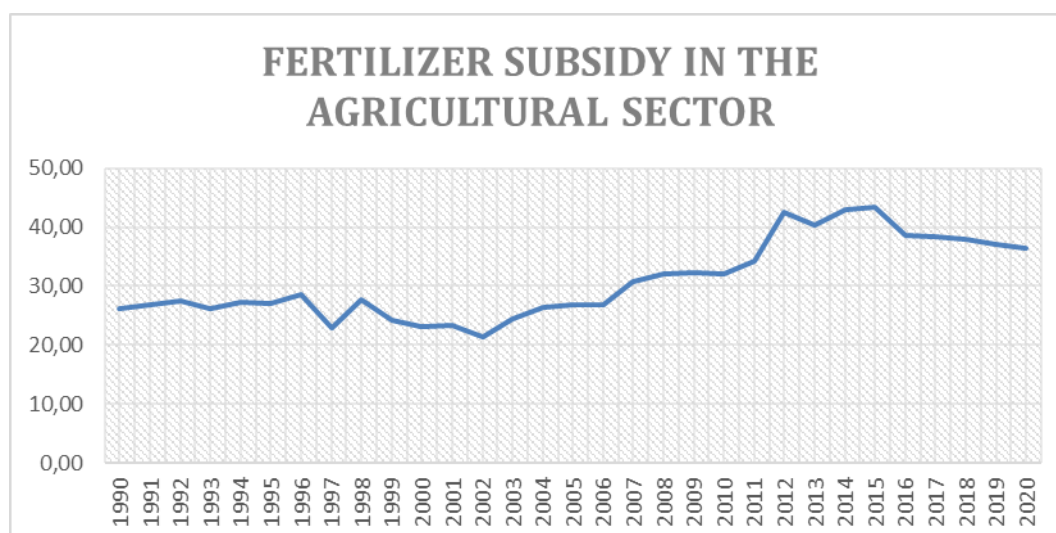


Figure 6. Agricultural Sector Fertilizer Subsidies 1990-2020

The picture above shows that fertilizer subsidies over a period of 30 years have experienced fluctuations. According to (Nur et al, 2016) this is due to cuts in the state budget in 2016, then the state budget used for fertilizer subsidies is also too large and there

are also indications of the ineffectiveness of the use of fertilizer subsidies to support the agricultural sector.

The increase in agricultural production can be seen based on the table below. In 1990-2020 it experienced fluctuations. If you look at the data above, in 1990-2012 there tended to be an increase in agricultural production, but in the following year, namely 1997, there was a decline. In the following years the same thing also experienced, namely there was an increase and decrease in certain years.

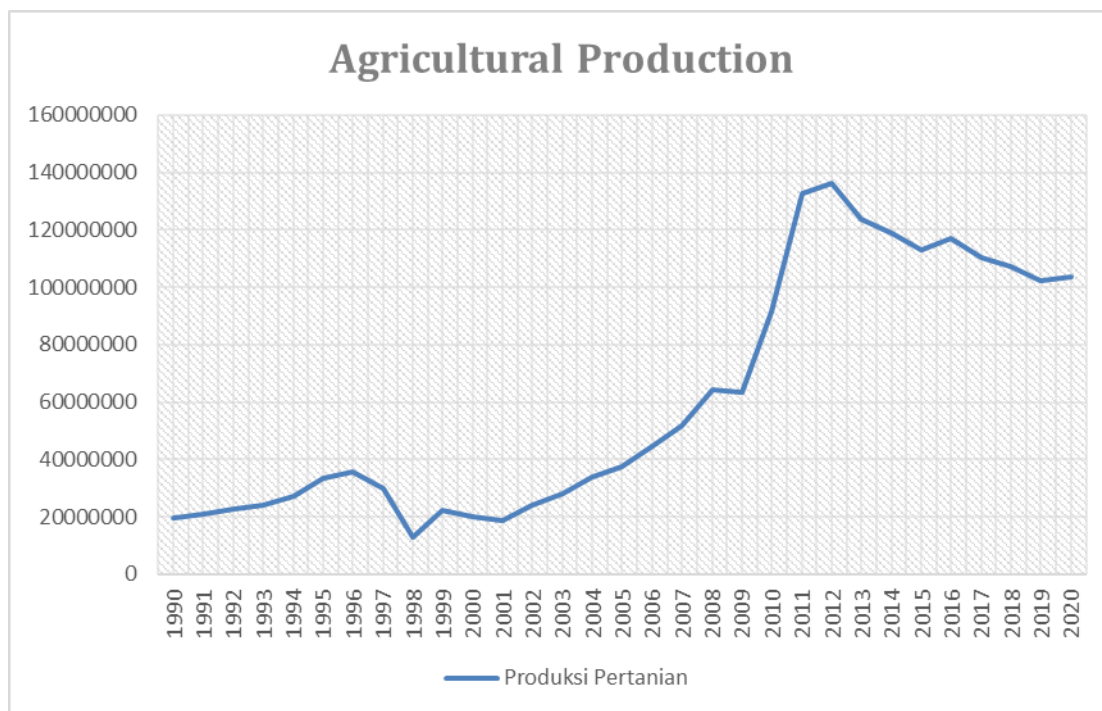


Figure 7. Indonesian Agricultural Production Data 1990-2019

The picture above shows that agricultural production over the past 30 years has experienced fluctuations. This is caused by the increasing population and the imbalance between the area of land managed and what is produced to support the increasing population. According to (Juliyanti & Usman, 2018).

CONCLUSION

1. There is a positive and significant influence between land area (X1) on agricultural production (Y) with a probability value of 0.0436 with a calculated t value of 2.125731.
2. There is a positive and significant influence between labor (X2) on agricultural production (Y) with 0.9017 with a calculated t value of 0.124767.
3. There is a positive and significant influence between fertilizer subsidies (X3) on agricultural production (Y) with a probability value of 0.7801 with a calculated t value of -0.282262.
4. There is a positive and significant influence between land area (X1), labor (X2) and fertilizer subsidies (X3) which together influence agricultural production which is shown by the results of data processing using the Short-term Error Correction Model method, the value of Fcount is $(8.046104 > F_{table} (2.98))$ with a probability of $0.000259 < 0.051$.

Recommendation

Based on the conclusions explained above, there are several suggestions as follows:

1. Farmers need to increase their productivity so they can manage agricultural land so

that the land can still be developed so that rice production can be increased further and ultimately this will increase agricultural production

2. In using labor, farmers should use only a small amount of labor but have experience, ability and expertise in farming rather than using a lot of labor but not having experience, ability or expertise in agricultural business.
3. Monitor the distribution of fertilizer subsidies in each region. This is done to ensure that fertilizer subsidies can be distributed properly.
4. Maximize domestic agricultural production with quality materials and must also utilize insight and technology or subsidized fertilizers, so that agricultural production always increases with each harvest.

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