

Factors Influencing the Agricultural Sector and Economic Growth of West Pakpak Regency: Evidence from Agrarian and Muslim Societies

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Abstract

The agricultural sector was the main sector in various countries before technological developments, which then led to the agricultural sector driving the industrial and service sectors. Economic growth refers to the process of increasing production in an economy, which is reflected in the form of an increase in national income. A country is considered to be experiencing positive economic growth when its real GDP increases and this is one of the benchmarks for assessing economic progress. High economic growth, especially in the long term, is crucial for reducing or even eliminating poverty levels. The theoretical framework emphasizes that economic growth creates or increases job opportunities, which in turn reduces the unemployment rate and increases wages or income for groups. This research is motivated by the low value added in the agricultural sector which is reflected in the low growth of the agricultural sector. This research aims to determine the factors that can influence the agricultural sector and economic growth in Pakpak Bharat Regency. The data used in this research is agricultural sector data in Pakpak Bharat Regency. The data source for this research comes from the Central Statistics Agency (BPS) of Pakpak Bharat Regency which was analyzed using associative analysis. The results of this research show that the independent variable, namely the Agricultural Sector, and the dependent variable, namely economic growth, have a positive influence. Based on the t-test. The calculated t value was obtained at 75,372 so that the agricultural sector had a positive and significant effect on economic growth in Pakpak Bharat Regency. The agricultural sector, which is one of the sources of foreign exchange earnings for the country, if it influences economic growth, will continue to improve the economy in a region and country.

Keywords: Agricultural Sector, Economic Growth, Agrarian and Muslim Societies

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INTRODUCTION

Rapid advances in information and communication technology have changed the way people move, enabling them to carry out various activities more easily through digital platforms. The agricultural sector is a very strategic and important component of the national economy, as it produces a large part of the country's gross domestic product, provides the majority of export revenues, and employs millions of people. Agriculture is the main livelihood for some people in developing countries, in addition to poor people in rural areas in low and middle-income countries who directly or indirectly depend on agriculture for their livelihoods. The agricultural sector has an important role in the Indonesian economy, this is because the agricultural sector functions as the basis or foundation of economic growth. (Yasrizal & Hasan, 2016). The economic growth of a region is one of the main elements in regional economic development, although the development process is not only determined by economic aspects alone. High economic growth is currently the main development target in regional development plans (Widianingsih et al., 2015). Through high regional economic growth, it is hoped that community welfare can be gradually improved. A region's ability to grow cannot be separated from the role of existing sectors in an economy, including the agricultural sector. Indonesia is a country whose national development essentially has one goal to advance general welfare (Raudhatul Hasanah et al., 2023).

Economic growth is influenced by several factors. According to economic growth theory, demand for goods and services has a large influence on a region's ability to grow economically because local resources have the potential to increase regional income and provide job vacancies (Syah et al., 2023). Economic growth is also part of the procedure for increasing the volume of economic production which can be seen from the growth of national income so that it is considered an index of the success of economic development (Zulyan et al., 2024). The agricultural sector plays an important role in the process of economic growth in a region, where the agricultural sector has a role in supporting other sectors, namely as an input or provider of raw materials, increasing the per capita income of the population, and playing a role in absorbing labor which will then influence the economic growth of a region (Muchendar et al., 2020). Based on research conducted by Hidayah & Susanti, (2022), it is stated that the agricultural sector in the economy is a sector that has a role in the economy, both in developed and developing countries, there is research which states that there is an influence on the development of the agricultural sector on the economy, both in countries developed and in developing countries. In developed countries, although the agricultural sector does not have a large influence, the role of the agricultural sector cannot be eliminated because the agricultural sector is one of the supporting sectors for the country's economic development. In developing countries, agriculture has a fairly large role because in developing countries the agricultural sector is the main sector in economic development.

According to Sukirno, the rate of economic growth is defined as an increase in Gross Regional Domestic Product (GRDP) without paying attention to the extent of the increase. Furthermore, economic development does not only depend on the total growth of a region's GRDP but must also pay attention to the extent to which income

is distributed across various levels of society and who benefits from this growth. Therefore, a decrease in a region's GRDP can have an impact on the quality of household consumption. If the population's income level is limited, poor households tend to change their consumption patterns to the cheapest goods with fewer items (Sari et al., 2023). Agriculture is the foundation of the Indonesian economy. Although agriculture's relative contribution to the economy is measured as a value proposition added to GDP (Gross Domestic Product) or national income decreasing from year to year, does not mean its value and role are not significant. The added value of the agricultural sector continues to increase from time to time. The role of the sector This is in absorbing permanent labor which is the most important. The majority of the population of Indonesia, which mostly lives in rural areas, still relies on the sector of agriculture for their livelihood. Agriculture can contribute to the national economy, and facing dynamics and free trade requires national planning with selection based on priorities and targets of the agricultural development program. One aspect that is sufficient to determine the success of the development is coordinating investments according to location and conditions. Agriculture and rural development have considerable potential largely related to matters of contribution to the national economy through the results obtained from gross domestic income so that the sector of Agriculture is placed in a priority position in development planning (Amalna & Ardyansyah, 2023).

Meanwhile, research conducted by Albetris, (2019), concluded that the influence of the agricultural sector on increasing the economic growth of Jambi Province is still low, far from expectations. This is because the utilization of natural resource potential has not been optimal, especially the results from the agricultural sector. In this case, the agricultural sector has quite a large potential in increasing the economic growth of Jambi Province. The research conducted by Umasugi, (2019), shows that the agricultural sector makes a major contribution to the economy in the Sula Islands district. It can be seen that the agricultural sector is basic and plays an important role in regional development in the Sula Islands district. The agricultural sector can not only be sufficient for economic activities in the Sula Islands district but can be exported outside the region. North Sumatra Province is one of the largest provinces in Indonesia, consisting of 33 regencies/cities and each of these regions certainly has potential that can be maximized. The potential of each City Regency in North Sumatra is quite diverse, from the industrial sector, and agriculture to the tourism sector, as long as there are various potentials, the greatest potential is potential in the economic and industrial sectors.

Pakpak Bharat Regency is one of the regencies in North Sumatra Province, Indonesia. Pakpak Bharat Regency consists of 8 sub-districts, 52 villages, and 212 hamlets. Pakpak Bharat Regency is a district resulting from the expansion of Dairi Regency in 2003. The area of Pakpak Bharat Regency is 1,221.30 km², which consists of Salak District 473.68 km², S.T.U. Jehe 443.62 km² and Royal District 304.00 km². Pakpak Bharat Regency mostly consists of highlands and hills and most of the land is mountainous with varying slopes and has a tropical rainy climate. In general, the Pakpak Bharat Regency is at an altitude of 700 - 1,500 meters above sea level. The agricultural sector of Pakpak Bharat Regency experiences an increase every year. Based on BPS agricultural data, it shows that Pakpak Bharat Regency has several

poor people that fluctuate every year and has the highest position in 2019, which can be seen in the table below.

Table 1. Pakpak Bharat Regency Agricultural Sector

Year	Pakpak Bharat District Agriculture					
	2018	2019	2020	2021	2022	Average
Mark	5.49	5.54	1.08	3.01	4.40	3.904

Source: BPS Pakpak Bharat Regency Data processed 2023

From the table above, it can be seen that over 5 years, the poverty percentage in Pakpak Bharat Regency tends to fluctuate. On the other hand, Pakpak Bharat Regency is one of the districts that still relies on agriculture as the main livelihood of its population. This condition explains that the agricultural sector is the basis of life for the majority of poor people in Pakpak Bharat Regency because most of them live in rural areas. Meanwhile, the economic growth of Pakpak Bharat Regency can be seen in the table below.

Table 2. Economic growth of Pakpak Bharat Regency

Year	Pakpak Bharat District Agriculture					
	2018	2019	2020	2021	2022	Average
Mark	5.85	5.87	-0.18	2.54	4.27	18.35

Source: BPS Pakpak Bharat Regency (Data processed 2023)

It can be seen in the table above that during the 5 years starting from 2018 to 2022, the percentage of economic growth in Pakpak Bharat Regency also experienced fluctuations. The lowest percentage in 2020 was -0.18, the effect of the COVID-19 pandemic then increased in 2021 to 2.54%. This shows that the economic level of the Pakpak Bharat Regency is starting to return to normal, although it is not yet optimal. The phenomenon of low growth in the agricultural sector shows that it is important to know what steps can be taken to increase economic growth in Pakpak Bharat Regency through the agricultural sector.

LITERATURE REVIEW

Agricultural Sector

Agriculture is a process for producing food, livestock, and agro-industrial products by utilizing natural resources, namely plant resources and animal resources (Siregar, 2023). In general, the definition of agriculture is a human activity that includes farming, animal husbandry, fishing, and also forestry. Agriculture is the main economic sector in developing countries. The role or contribution of the agricultural sector in a country's economic development occupies a very important position. This is partly due to several factors. First, the agricultural sector is a source of supplies of food and raw materials needed by a country. Islam glorifies the farming profession, apart from getting economic benefits to meet family needs, farming is also a form of worship. In the Qur'an, he mentions the gifts that He bestows so that someone wants to plant crops. In the Book *al-Halal wa al-Haram fi al-*

Islam, Sheikh Yusuf Qaradawi states that Allah has prepared the earth for vegetation and income. Therefore, Allah made the earth *dzalul* (easy to explore) and bisath expanse which are blessings that must be remembered and grateful.

وَاللَّهُ جَعَلَ لَكُمْ الْأَرْضَ بِسَاطًا ۖ لِيَتَسَلَّكُوا مِنْهَا سُبُلًا فَجَاجًا

Meaning: And Allah made the earth for you as an expanse. So that you can go here and there on wide roads. (Q.S. An-Nuh: 19-20)

The verses above are a warning from Allah to humans regarding the blessings of farming and Allah has made the tools or necessities easy for them. Rasulullah saw also said.

مَا مِنْ مُسْلِمٍ يَغْرِسُ غَرْسًا أَوْ يَزْرَعُ زَرْعًا فَيَأْكُلُ مِنْهُ طَيْرٌ أَوْ إِنْسَانٌ أَوْ بَهِيمَةٌ إِلَّا كَانَ لَهُ بِهِ صَدَقَةٌ

Meaning: It is not a Muslim who plants crops or does farming and then birds, humans or livestock eat the results, unless all of this is charity for him (HR. Bukhari)

The above hadith shows how Islam gives honor and glory to anyone who makes God's land prosperous because, in reality, God has indeed provided the land to support the lives of the creatures He created, God even gives a reward in the form of alms status for this planting activity. The word alms in this hadith also adds spiritual meaning to planting activities, in line with Allah's guidance when presenting verses about agriculture and plantations contained in the Al-Quran. Agriculture in the Islamic view is not merely a secularistic activity, but rather a business that has transcendental values. This can be seen from the value of almsgiving, as an explanation of the connection between planting activities and faith in Allah. Agricultural activities must be benefit-oriented, not only for themselves but also for the food needs of other people, as well as future generations. This is seen in the editorial of the hadith regarding the virtue of planting, that Allah has classified farming activities as acts of charity if what is planted is consumed by humans or other creatures of Allah.

In Harrod Domar and Solow's theory regarding agricultural revitalization, if there is an increase in investment in a sector, economic growth and per capita income will be able to increase and be realized because it is supported by improvements in technology, education, health, discipline, work ethic and output which interact with each other so that vitality in the agricultural sector will be realized again. This revitalization launch is capable of making a breakthrough in influencing economic growth. (Astrini, 2013). The role of the agricultural sector, apart from being a source of large foreign exchange earnings, is also a source of life for the majority of the Indonesian population, and if we look at the number of people working, the agricultural sector absorbs the most workers, who are generally uneducated workers who do not have skills and unequal distribution of income. Due to this condition, the bargaining power of our farmers is very weak, so the selling value of the product also greatly influences this condition (Kembauw et al., 2015).

Large demographic pressures in developing countries accompanied by increasing incomes of some of the population cause these needs to continue to increase. Third, the agricultural sector must be able to provide the factors needed for the expansion of other sectors, especially the industrial sector. These factors usually

take the form of capital, labor, and raw materials. Fourth, the agricultural sector is the basic sector for important market relations that have an impact on the development process. This sector can also create forward linkages and backward linkages which, if accompanied by the right conditions, can make a major contribution to development. Fifth, this sector is a source of income needed for development and a source of employment and income for the majority of the population of developing countries who live in rural areas (Berlianantiya, 2017). The contribution or service of the agricultural sector to economic development lies in terms of.

1. Providing an increasingly large food surplus to an increasing population.
2. Increasing demand for industrial products and thereby encouraging the expansion of the secondary and tertiary sectors.
3. Providing additional foreign exchange earnings for imports of capital goods for development through continuous exports of agricultural products.
4. Increase village income for government mobilization.
5. Improve community welfare.

The real role of the agricultural sector as the foundation of national economic development during times of crisis and economic recovery means that the agricultural sector needs to be positioned as a mainstay sector and supported consistently by developing a resource-based economy. On this basis, it is hoped that the potential of the rural economy will become a determinant of the national economy as a whole and thus changes that occur in the structure of the rural economy need to be scrutinized, especially their impact on the structure of employment opportunities and income in rural areas.

Theory of Economic Growth in the Agricultural Sector

Economic growth is defined as an increase in real gross domestic product (GDP) or real national income (Harahap et al., 2022). Economic growth is defined as a quantitative measure that describes the development of an economy in a particular year when compared with the previous year. Economic growth is the growth and development of activity in the economy which is caused by goods and services produced by society experiencing an increase in either a good or bad direction (Hasibuan et al., 2023). According to Boediono, economic growth is the process of increasing per capita output in the long term. The emphasis is on three aspects, namely process, output per capita, and long-term. Here we see the dynamic aspects of an economy. So, economic growth measures the achievements of the development of an economy. From one period to another, a country's ability to produce goods and services will increase. (Boediono, 1999). This increased capability is caused by increases in production factors both in quantity and quality. Investment will increase capital goods and the technology used will also develop. Besides that, the workforce is increasing as a result of population development along with increasing education and skills.

This theory of economic growth can be classified into several groups, namely classical theory, neoclassical theory, and neo-Keynesian theory, W.W. Rostow and Karl Bucher's theories include the following: (Wau et al., 2022). This classical theory

of economic growth has been developed since the 17th century. Two figures had the most influence on classical theoretical thinking, namely Adam Smith and David Ricardo. According to Adam Smith, (1776) in his book entitled *An Inquiry into the Nature and Causes of Weakness of the Nation* (1776), analyzing economic growth through two factors, namely the total output factor and the population growth factor. Calculation of total output is carried out using three variables, including natural resources, human resources, and capital stock. Meanwhile, the second factor, namely population growth, is used to determine market size and the rate of economic growth. According to David Ricardo, (1817), population or labor growth can influence the decline in marginal product because of the limited amount of land. According to him, increasing labor productivity requires technological progress and sufficient capital accumulation. Thus, economic growth can be achieved. According to Joseph A Schumpeter in his book entitled *The Theory of Economic Development*, he discusses the role of entrepreneurs in development. Schumpeter concluded that the process of economic growth is an innovation process carried out by innovators and entrepreneurs. Robert Solow believes that economic growth is a series of activities that originate from four main factors, namely humans, capital accumulation, modern technology, and results (output). Solow believes that population growth can have a positive or negative impact. Therefore, this growth must be utilized as a productive resource (Priyono & Ismail, 2012).

In Islamic economics, the economic growth aimed at is optimal growth, both in terms of material and spiritual well-being. Islam does not allow capital consumption and growth that exceeds limits that force unnatural sacrifices for humans. Economic growth from an Islamic perspective must include axiological aspects (values, morals) so that economic growth is not only oriented towards material prosperity but also includes spiritual aspects. Furthermore, maximizing the growth rate of national income percent, without regard to its impact on income distribution and general welfare, cannot be the main target in an Islamic economy. Economic growth in the Islamic view, the element of spirituality has the highest priority. What is meant by spirituality is the religious principles expressed in the Al-Quran and Sunnah brought by the prophets. Although the principles of economic growth in Islam are based on the Koran and Hadith, they do not go into detail on technical issues and are only explained globally, including the main guidelines, principles, rules, and other important things. (Risna, et al., 2023). So that money achieves its goal as a public good which has a flow concept. Rasulullah Saw initiated economic growth according to its place and the circulation of money (money velocity) ran optimally. Indications of this explanation can be understood from the words of the Prophet Muhammad to Asma' bint Abu Bakr (Zabidi, 2008). It was narrated from Asma' bint Abu Bakar ra, Rasulullah SAW once said to me "Don't hold back your money or Allah will withhold His Grace from you" (HR Bukhari).

Economic growth is an effort to increase production capacity to achieve additional output, which is measured using Gross Domestic Product (GDP) and Gross Regional Domestic Product (GRDP) in a region in other words economic growth is defined as the increase and development of the value of the gross domestic product that occurs from time to time to improve people's welfare, which is characterized by improving facilities for the community and developing the

production of goods and services (Widada et al., 2019). The stage of increasing real national income is a description of the economic growth process. This illustrates an increase in the standard of living of the community's welfare which can be measured by real output. The increase or development that occurs in a country can be seen from the fiscal economy, improvements in public facilities to support the needs of society, increases in industry in this case, namely the amount of production, increases and equalization of economic activities, infrastructure, etc. are a picture of the country's economic growth. especially the economic growth of a region (Suripto & Subayil, 2020).

Human capital is an important factor in economic development. With quality human capital, it is believed that economic performance will also be better. So it can be said that social development is economic development. According to (Erdkhadifa, 2022) the human resources of a nation, not physical capital or material resources, are the factor that most determines the character and speed of social and economic development of a nation in question. UNDP annual reports consistently show that human development drives economic growth and economic growth that does not pay attention to human development will not be sustainable. For it to run positively and sustainably, it must be supported by government social policies that are pro-human social development. Economic growth is defined as a process where the production capacity of an economy increases over time to produce increasingly greater levels of income (Wardana, 2016). This theory was developed by Solow and is based on previous classical theories that he had perfected. The focus of neo-classical theory is on the stock of capital goods and its relationship with people's decisions to save or invest. There are several important assumptions in understanding the Solow model. The endogenous growth theory developed by Romer in 1986 is a development of the Classical-Neo Classical growth theory. The weakness of the Classical and Neo-classical models lies in the assumption that technology is exogenous. The Harrod-Domar theory was developed separately in the same period by E.S. Domar and R.F. Harrod. Both see the importance of investment in economic growth, because investment will increase the stock of capital goods, which will enable output to increase. The source of domestic funds for investment purposes comes from the production portion (national income) that is saved (Widada et al., 2019).

According to Rostow, economic development or the transformation of a traditional society into a modern society is a multidimensional process. Rostow's analysis is based on the belief that economic growth will be created as a result of fundamental changes not only in the pattern of economic activity but also in political life and social relations in a society and country. In his book *The Stage of Economics*. From the various existing growth theories, namely Harold Domar's, Neoclassical, Solow's theory, and Romer's endogenous theory, there are three main factors or components in economic growth. These three are capital accumulation, which includes all forms or types of new investment invested in land, physical equipment, and capital or human resources. Population growth, which in the next few years will increase the number of the workforce and technological progress.

RESEARCH METHODOLOGY

The type of research carried out is causal associative research. Causal associative research is research that aims to analyze the causal relationship between independent variables (variables that influence) and dependent variables (variables that are influenced). This research uses one independent variable, namely the agricultural sector, and the dependent variable, namely economic growth. The data needed in this research are agricultural sector data and economic growth data in the Pakpak Bharat Regency in 2018. The source of data obtained in this research is from the Central Statistics Agency (BPS) of the Pakpak Bharat Regency. The data analysis method used in this research is a quantitative method or time series data, namely data over a certain period which is used to simplify calculations using statistical data. To see the contribution of the agricultural sector to economic growth in Pakpak Bharat Regency, a multiple linear regression model was used with the help of the EViews and SPSS programs.

The variable used is the Agricultural Sector GRDP with prices constant and economic growth data. Correlation analysis GRDP in the agricultural sector uses simple correlation analysis to know the linear relationship between these variables. The correlation value or indicator that describes the relationship between variables can be seen with the correlation coefficient, which is a measure of the direction and strength of the linear relationship between two random variables (Sunyoto, 2007). This research uses the Eviews application, so to find the correlation between variables X and y it can be calculated by looking for the sum of squared cross-products with the formula, $SSCP(XY) = \sum (X_i - \mu_X)(Y_i - \mu_Y)$ and μ is the average. Then the covariance is calculated by distributing SSCP by amount observations with or without correction degrees of freedom.

$$\sigma_{X,Y} = \frac{\sum (X_i - \mu_X)(Y_i - \mu_Y)}{n - k}$$

The formula is for ordinary or Pearson product-moment correlation listed in the Eviews online guide. The correlation coefficient can have positive and negative values with values ranging from -1 to 1. A negative correlation is indicated by a negative correlation coefficient and vice versa.

RESULT AND DISCUSSION

The agricultural sector is a sector that is basic for a country when the country is underdeveloped and has industrial and service sectors. The agricultural sector then expanded to become an industrial sector using processed products from the agricultural sector as the basic material then expanding into the service sector with transportation to distribute agricultural sector. With progress human technology continues development and human needs also continue to develop so that the country developed countries, the main sector of which is initially from the agricultural sector later the sector focus will shift to sectors industry and then shifts to sectors service. Agriculture not only expands the economic sector but is also a basic material for industry, then the most important thing is The agricultural sector is a sector that absorbs a large number of workers the most though continues.

Indonesia, with large areas of agricultural land, is still faced with its population growth relatively large which results in the availability of agricultural land becoming smaller. If this condition continues, farmers will experience a scarcity of

land for farming which will affect farmers' ability to produce food. Within the framework of national economic development, regional economic development is a process of managing existing resources, both natural resources and human resources, to create new jobs and stimulate economic development in the region (Arsyad, 1999). Regional economic development has an important role in the success of development at the national level. The state of the national economy is structured by the state of the regional economy. Considering the condition of Indonesia, which has a large area and a relatively large number of provinces, the availability of infrastructure and physical capital has an important role in increasing economic growth. Production infrastructure can be provided either by the government or private. The government as the main agent of development has a big responsibility in providing infrastructure and sufficient capital for both public and private interests. Apart from that, the availability of labor as a human resource in addition to nature, capital, and technology also has an important role in the economy.

Interpolated Data

Table 3. Agricultural Sector Interpolation Data

Year	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
2018	4,15	4,50	4,82	5,00	5,35	5,57	5,77	5,92	6,06	6,15	6,23	6,25
2019	6,26	6,24	6,17	6,00	5,96	5,81	5,63	5,41	5,16	4,89	4,59	4,24
2020	2,00	1,73	1,45	1,21	1,10	0,87	0,77	0,71	0,70	0,72	0,91	2,24
2021	2,21	2,37	2,53	2,67	2,82	2,97	3,10	3,23	3,37	3,49	3,61	3,74
2022	3,85	3,96	4,08	4,17	4,27	4,38	4,46	4,55	4,65	4,72	4,80	4,88

Source: Researcher Processed Data, 2024

Table 4. Interpolated Economic Growth Data

Year	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
2018	4,06	4,53	4,95	5,33	5,67	5,96	6,22	6,43	6,60	6,74	6,82	6,87
2019	6,86	6,83	6,74	6,62	6,45	6,25	6,00	5,69	5,37	4,98	4,57	4,10
2020	1,14	0,70	0,31	-	-	-	-	-	-	-	-	-
				0,10	0,27	0,46	0,60	0,69	0,70	0,65	0,55	0,38
2021	1,46	1,68	1,89	2,10	2,29	2,49	2,67	2,85	3,00	3,18	3,35	3,49
2022	3,65	3,78	4,00	4,10	4,14	4,26	4,36	4,45	4,54	4,62	4,71	4,77

Source: Researcher Processed Data, 2024

T Test (Simultaneous Significance Test)

The t-test is a type of statistical test to find out whether there is a difference between the estimated value and the value resulting from statistical calculations. These estimated values have various origins, some we determine ourselves, based on issues, and requirement values.

Table 5. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	1.376	.078		75.372	.000
SP	-1.727	.018	.995	-22.065	.000

Source: Researcher Processed Data, 2024

$$df = n - k$$

Number of Variables (k) = 2

Number of Data (n) = 60

Sig level = 5% = 0.025

df = 60 - 2 = 58

The t-calculated value is 75.372, which means the research direction shows that the variables have a significant influence. By using a significant tolerance value of 5%, we get a t-table of 1.67155. So it is concluded that: t count > t table (75.372 > 1.67155) which means it has a significant influence.

Simple Linear Regression Analysis

Based on the partial test results, a regression model can be created from table 3, as follows.

$$Y = a + \beta SP + e$$

$$Y = -1.727 + 1.376 SP + e$$

Based on the regression equation it can be seen that:

1. The constant value is -1.727, meaning that when the agricultural sector variable on economic growth is equal to zero (0), it has a constant value, namely -1.727. This is the value of the dependent variable when the independent variable is zero (0). So the initial value is -1.727.
2. The Agricultural Sector (SP) variable has a positive regression coefficient of 1.376. This means that every time the agricultural sector increases by 100 percent, economic growth will increase by 137.6% and this also applies if it decreases. This illustrates that the direction of the relationship between the

independent variable (Agricultural Sector) and the dependent variable (Economic Growth) is in the same direction.

Determinant Coefficient Test (R Square)

R square or R² 0.990 variable the coefficient of determination value is between zero and one. A small R square value means that the ability of the independent variables to explain the dependent variable is limited.

**Table 6. Determination Test Results
Model Summary ^b**

	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model				
1	.995 ^a	.990	.990	.24458

Source: Researcher Processed Data, 2024

Contribution of the Agricultural Sector to Economic Growth in Pakpak Bharat Regency

Based on the results of data processing, it shows that the R-Square value is 0.990 and the R-value is 0.995. This means that the independent variable, namely X (Agricultural Sector) in the regression can explain the variation in the dependent variable, namely Y (Economic Growth) of 0.990. Research conducted by (Nadziroh, 2020) concluded that the role of agriculture in economic development is only seen passively as a supporting element. The main role of agriculture is only considered as a source of labor and a food-producing sector. The role of the agricultural sector in economic development in Indonesia is as a food-producing sector, a source of labor for other economic sectors, a source of foreign exchange for the country, and an increasing demand for industrial products thus encouraging the need to expand the secondary and tertiary sectors. The research conducted by (Muhammad Finland Perdana, 2022) shows that the agricultural sector partially has a positive and significant effect on economic growth in Indonesia. Analysis of the coefficient of determination shows that the agricultural sector GDP influenced economic growth in Indonesia by 94.8% during the 2016-2021 period, which means that the agricultural sector can contribute an influence to economic growth of 15.8% every year. There is also research conducted by (Muhammad Arafah, 2021) stating that the agricultural sector has great potential and prospects for economic growth in Indragiri Regency, especially in the absorption of labor both locally and outside the region and the development of per capita income of the population with LQ values from 2014- 2018 >

The agricultural sector has a significant contribution to growth in Pakpak Bharat Regency. Apart from providing food for the residents of Pakpak Bharat Regency, this sector also plays a role in the economy through various aspects such as economic growth and other sectors. The agricultural sector provides direct and indirect contributions through agribusiness and the agricultural product processing industry. In the long term, the development of a sustainable and competitive agricultural sector will provide broad economic benefits. The agricultural sector can be the main driver of economic growth, creating jobs, reducing poverty, and maintaining food security. According to (the North Sumatra Technology Assessment Center, (2020) the problem of farming in Pakpak Bharat is that productivity is still low with quality still varying. Apart from that, limited infrastructure, accessibility problems, and infrastructure quality are the main obstacles to developing the agricultural sector. Lack of roads, inadequate irrigation, and lack of efficient market access hinder distribution and increase production costs. Thus, the role of the agricultural sector in economic growth in Pakpak Bharat Regency cannot be ignored. By paying attention to existing opportunities and overcoming the obstacles faced, the agricultural sector can become one of the main driving forces in achieving inclusive, sustainable, and competitive economic growth in Indonesia.

As a developing country, Indonesia is an agricultural country with the majority of the population working in the agricultural sector, economic activity is more focused on the agricultural sector as the dominant sector. Viewed in terms of production factors, and land availability. Agriculture as one of the production inputs is decreasing along with other sector development processes. This condition has an impact on land scarcity with a static increase in land. Apart from land availability, increasing population can also put pressure on the availability of land for the agricultural sector. This is caused by increasing population pressure on agricultural land. The population continues to increase and the development activities carried out have taken up a lot of agricultural land for use to produce food that can be replaced with other uses such as housing, offices, and so on. The agricultural sector is still the main source of livelihood for the majority of the population. Development program. The agricultural sector includes increasing production in its five sub-sectors, as well as increasing the income of farmers, planters, livestock breeders, and fishermen. This development program is supported by production, development of irrigation networks, and roads, sales and pricing policies, and research. During the Long Term Development I (PJP I) period, the agricultural sector was a priority for economic development. Growth averaged 3.6 percent per year (Arwanto et al., 2023).

The most notable progress in This sector during Long Term Development I was in the field of food production, namely the success of achieving self-sufficiency in rice in 1984. Previously, this staple food was still always imported. Even in the 1970s Indonesia is the largest rice importing country in the world. Rice self-sufficiency has an important impact on improving nutritional quality, people's income, and national economic stability. Until 1990, the agricultural sector was still the main contributor to Gross Domestic Product (GDP). However, after that, this position was taken over by the industrial sector processing. This is very worrying, not because the agricultural sector is not developing but considering that there is still such a large proportion of the workforce working in this sector. Until 1992 alone, more than half of the workforce was recorded as working in this sector. In addition, the quality of human resources working in the agricultural sector is generally relatively low, so productivity is low. In turn, their income will also be low. On a macro scale, the low labor productivity of

a sector can be measured by comparing the proportion of that sector in absorbing labor and contributing to production or national income. It is known that in all subsectors within the sector agriculture, which is the benchmark for seeing sustainability The economy, in general, is always focused on the food crops subsector because this subsector still plays an important role as a supplier of consumption needs for the population. Specifically for Indonesia, food crops also have a strategic role in maintaining national economic stability. Food ingredients, especially rice as a staple food, are still one of the commodities that influence price stability. prices in general. An increase in the price of rice can trigger an increase in the prices of other goods. Therefore, food crops, especially rice production, have always been a serious concern for both regional and central governments (Nurhalisa & Nawawi, 2023).

CONCLUSIONS

The results of this research show that there is an influence of the agricultural sector's contribution to economic growth in Pakpak Bharat Regency so H_a is accepted and H_0 is rejected because the calculated t value is greater than t table ($75.372 > 1.67155$) with a regression value of $Y = -1.727 + 1.376 SP + e$. Agriculture is the most dominant sector in Pakpak Bharat Regency, because most of the population grows crops. If the agricultural sector continues to influence economic growth in Pakpak Bharat Regency significantly, the economy of Pakpak Bharat Regency will continue to increase every year considering that the agricultural land is quite extensive and supported by livestock and fisheries. There are suggestions from the results of this research to all parties, especially the government, to increase attention to the agricultural sector in Dairi Regency to support increasing the contribution of the agricultural sector to the Regency's GRDP which accelerates the increase in community welfare and employment, because from the research results the agricultural sector is a sector that provides the largest contribution to the formation of Gross Regional Domestic Product value in Dairi Regency. Next researcher can develop this research by using other analytical methods such as Location Quotient analysis, Dynamic Location Quotient, and Shift Share to determine which agricultural sector is the base sector in the economy and identify the agricultural subsector which is the base subsector.

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