Poverty Alleviation Through Strengthening Economic Growth in the Agricultural Sector: A Study of 10 Indonesian

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Abstract. The percentage of poor people remains high despite high agricultural sector GRDP. This study aims to determine how the effect of strengthening economic growth in the agricultural sector on poverty alleviation in 10 provinces in Indonesia using the panel data method of the Seemingly Unrelated Regression model using independent variables that are dependent on where these variables are obtained from BPS from 2014-2023. The results showed that the agricultural sector GRDP variable, the Index Received by Farmers, and the Human Development Index had a negative and significant effect on poverty, the more the agricultural sector GRDP increased, the greater the contribution of the agricultural sector to the economy. This can increase the income of farmers, thus potentially reducing the number of poor people. And the Farmer Exchange Rate variable has a positive and insignificant effect on poverty. Meanwhile, the Open Unemployment Rate and the Farmer Pay Index have a positive and significant effect on poverty. This study implies that increasing farmers' productivity and income can reduce rural poverty.

Keywords: SUR, agricultural sector GRDP, Open Unemployment Rate, Farmers' Acceptable Index, Farmers Paid Index, Human Development Index, Poverty

1 INTRODUCTION

The emergence of national and international commitments on poverty and related goals (similar to millennium development missions and poverty reduction tactics at the country level) coupled with the failure of past paradigms to undertake mass rural poverty reduction has had a devastating impact on poverty. The renewed push towards agriculture's role in development and poverty alleviation when coupled with new rural development examples has emphasized a broader approach where rural and urban spaces are viewed as a continuum and their relationship is emphasized. (Anríquez & Stamoulis, 2019)

Past reality studies have shown that agricultural growth through the adoption of improved and new agricultural technologies is the most effective way to increase agricultural productivity, maintain food security, and reduce poverty. Technology adoption in the agricultural sector has

contributed greatly to increasing crop yields and improving household food security, thereby reducing household poverty. (Azizah Az Zakiyyah et al., n.d.)

In developing countries, rural areas are very important in the economy and absorb a lot of labor. Meanwhile, in the Southeast Asian region, rural areas also contribute more than 10% to the Gross Domestic Product (GDP), especially the agricultural sector, and provide employment for more than one-third of the population. Agricultural development is essential in reducing poverty and hunger consistent with the Millennium Development Goals (MDGs) by 2015, with three out of four people suffering from hunger in Southeast Asia being rural and totally dependent on the agricultural sector. In fact, based on empirical evidence across 25 countries in 2009, an increase in per capita gains in agriculture can reduce poverty by 52%. (Hermawan, 2012)

An increase in agricultural GRDP has the capacity to reduce human suffering through several mechanisms. First, an increase in agricultural productivity and costs incurred will increase the profits of farmers and farm laborers. Second, increased agricultural productivity can also improve food security and reduce food price inflation (Lutfi et al., 2014). Third, the development of agricultural areas will create high-quality multiplier effects for the improvement of other sectors consisting of trade, transportation, and services in rural areas. It is expected to create new jobs and increase incomes (Aziz, 2018). Fourth, the purchasing power of rural groups through income expansion in agriculture can increase the demand for goods and services, which in turn will trigger growth. (Sudaryono, 2016)

Rural areas in Indonesia have an important role in absorbing labor, which can accommodate 38.8 million workers or 29.81% of the total national workforce in 2020. In addition, these areas also contributed around 13% to GDP in 2020. Therefore, rural areas have excellent potential to be developed to alleviate poverty in Indonesia, especially in the agricultural sector.

Poverty in the agricultural sector is caused by various factors that may often be experienced in structural constraints, low productivity in the sector. This condition is caused by the increasingly unequal distribution of agricultural land, low levels of education, low sensitivity to generation, vulnerable trade costs for farmers and difficult access to capital. (Suripto & Istanti, 2019)

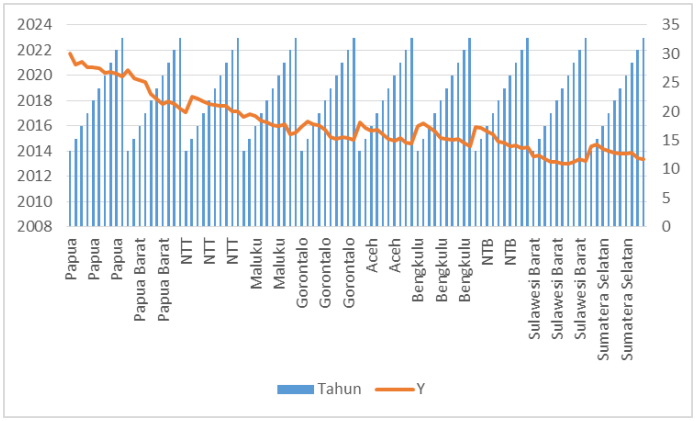

Figure 1: Percentage of Poor Population

Figure 1 shows a graph of the percentage of poor people (Y) in the 10 provinces with the highest poverty rates in Indonesia from 2014 to 2023. In general, the proportion of poor people in these 10 provinces experienced a large decrease from 2014 to 2023, with the largest decrease occurring in West Papua Province from 27.13% in 2014 to 20.49% in 2023. The provinces with the lowest percentage of poor people below 15% in 2023 are West Sulawesi (11.49%), South Sumatra (11.78%), NTB (13.85%), Bengkulu (14.05%), and Aceh (14.45%).

To see the fulfillment of this increase can be measured through the extent of the welfare of farmers, namely the Farmer Exchange Rate (NTP). NTP describes the ratio between the Price Index Received by farmers (IT) and the Price Index Paid by Farmers (IB). Conceptually, NTP is the level of ability to replace agricultural products obtained through farmers with goods and services desired for household consumption and the desire to provide agricultural products. (Hamjaya, 2022)

A high NTP reflects the strong purchasing power of farmers because the selling price of their agricultural products is higher than the price of necessities purchased. A high NTP will increase farmers' real incomes and thus have the opportunity to alleviate rural poverty (Suripto et al., 2020). Similarly, an increase in NTP can encourage investment and finance in rural areas as demand for goods and services increases. Therefore, policies that are able to increase NTP along with managing inflation, subsidizing agricultural inputs, and protecting the prices of agricultural products need to be implemented. Sustainable NTP growth is needed to realize economic resilience and poverty alleviation among farmers and rural communities in a sustainable manner. (Hastuti et al., 2020)

According to Habibullah (2020), NTP growth can reduce the poor population. In 2019 the poor population fell to 9.22% even though the national NTP changed to 104.16%, meaning it passed the 100 mark, this shows that farmers are facing an increase. The cost of products increases from the greater the increase in the cost of revenue, the higher the farmer's profit than the cost. Saragih (2017) said that rural poverty remains widespread despite the increase in NTP.

But in fact, efforts to alleviate poverty through the agricultural sector are currently considered to be lacking in quality. One of the factors is that there are still large gaps and disparities between regions that greatly affect the fulfillment of poverty reduction. In fact, the 10 provinces with the highest poverty rates contribute almost 50% to the total poor population in Indonesia. (N. Sari & Rahmayati, 2019)

If the social burden is getting heavier, unemployment is increasing, income distribution is uneven, and the population is increasing, economic growth cannot be said to be successful. The improvement of the rural economy can be seen from the unemployment rate, we can see the extent of community welfare and the level of income distribution. Unemployment occurs due to an excessive level of trade in the employment force that does not always match the help of employment due to low employment growth. (Tutupoho, 2019)

Looking at this phenomenon, it is necessary to conduct research that examines poverty alleviation efforts through strengthening the agricultural sector in the 10 provinces with the highest poverty rates in Indonesia. Although the growth of the agricultural sector is slower than the non-agricultural sector, the GDP of the agricultural sector continues to increase every 12 months. This means that the agricultural sector has the ability to continue to maintain its

productivity growth. The results of this study are expected to provide advice on targeted and effective poverty reduction policy methods in the future.

The study of poverty alleviation through strengthening the agricultural sector has several advantages and disadvantages. In terms of benefits, this material can be applied to strategic issues of development and poverty in Indonesia. In addition, the agricultural sector is still the main sector in many poor areas, so this research has the potential to provide practical benefits. From a researcher's perspective, reading this topic can broaden horizons and hone talents in conducting empirical research. The challenges faced include the issue of monitoring the direct impact between agricultural productivity and poverty alleviation as there are many other factors at play, the need for detailed household data, and field access in remote areas. Overall, the benefits of education and policy contributions are worth the challenges.

This study uses the SUR model panel data method to reduce poverty in the 10 provinces with the highest poverty rate in Indonesia through strengthening economic growth in the agricultural sector with the addition of the variables of the Index Received by Farmers (X4) and the Index Paid by Farmers (X5).

2 LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Poverty alleviation has been one of the main priorities for the Indonesian government. Previous studies have looked at various strategies to reduce poverty, including strengthening economic growth in the agricultural sector. Santos and Campenon (2020) examined agricultural productivity growth in Indonesia and its impact on poverty reduction from 2000-2014. They found that agricultural productivity growth contributed significantly to poverty reduction by increasing rural incomes. However, the study was limited to national level data and did not look at specific provinces. (Campenon & Santos, 2020)

Widiyanto (2018) conducted research on 10 Indonesian provinces using panel data from 2005-2015. He found heterogeneity in the impact of agricultural sector growth on poverty rate across the 10 provinces. Agricultural growth in provinces with larger agricultural sector contribution seemed to have greater impact on poverty reduction. The study recommended agricultural development policies tailored to the conditions in each province. However, it lacked qualitative aspects to complement the quantitative results. (Widiyanto, 2018)

Based on the reviewed studies, further research is needed using recent data from multiple Indonesian provinces. A combination of quantitative and qualitative analyses would provide better insight into suitable policies and programs for poverty alleviation through agricultural sector development in different provincial contexts. More factors such as infrastructure, technology access, market linkages should also be considered in addition to merely looking at agricultural productivity growth. (Utami & Lusiana, 2019)

3 RESEARCH METHODOLOGY

This study was conducted to determine whether or not there is an effect of agricultural sector GRDP in reducing poverty in 10 provinces with the highest poverty rate in Indonesia using panel data from 2014-2023. These 10 provinces were selected based on written records published by CNBC in August 2023 (Putri, 2023), the 10 provinces selected are Papua, West Papua, NTT, Maluku, Gorontalo, Aceh, Bengkulu, NTB, Central Sulawesi, and South Sumatra.

The data used for this research is annual statistical data from the third quarter of 2014 to the third quarter of 2023, and all data is obtained from the Central Statistics Agency (BPS) 2023, the dependent variable uses the Poor Population and the independent variables apply the agricultural sector GRDP, Open Unemployment Rate, Farmer Exchange Rate, Farmer Received Index, Farmer Paid Index, and Human Development Index (HDI).

The analysis method used is panel data analysis which combines time series and cross section. According to Baltagi (2005), the various benefits of using panel data methods include: controlling various individual facts in a certain period of time, offering broader and more diverse information, reducing the linear relationship between variables, increasing the degree of freedom and extra efficiency, being able to determine dynamic alternatives, finding and level impacts that are not detected in cross section or time series alone, being used to create and version more complicated behavioral models, reducing bias that forms individual aggregation due to more data units.

The modeling used is the Seemingly Unrelated Regression (SUR) proposed by Zellner in 1962 which is a refinement of the linear regression version. SUR is a set of equations that includes several regressions where each equation gets a unique reaction variable and allows it to have a unique set of prediction variables. The advantage of the SUR method is that it can support the interaction between the error of one equation and the error of another equation. And the SUR method is more efficient because parameter estimation is linear. A relationship between variables is formed when identical sets of equations that have extraordinary errors are correlated with each other. (Yuniarti, 2010)

The econometric equation is constructed as follows:

$$Yit = \beta_0 + \beta_{11}PDRB_{11,t} + \beta_{12}TPT_{12,t} + \beta_{13}NTP_{13,t} + \beta_{14}It_{14,t} + \beta_{15}Ib_{15,t} + \beta_{16}IPM_{16,k} + e_{1t}$$

Where t = 1,2, ..., n. while in matrix notation, the following equation is obtained:

$$Y_j = X_j\beta_j + \mu_j$$

Where :

$$\begin{matrix} y_1 \\ y_2 \\ \vdots \\ y_m \end{matrix} = \begin{bmatrix} x_1 & 0 & 0 \\ 0 & x_2 & 0 \\ \vdots & \vdots & \vdots \\ 0 & 0 & x_m \end{bmatrix} \begin{matrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_m \end{matrix} + \begin{matrix} \mu_1 \\ \mu_2 \\ \vdots \\ \mu_m \end{matrix}$$

Where Yj is the column index of independent variable values of size n x 1, β_j is the index of SUR model parameters of size Ki x 1, μ_j is the column index of errors of dimension n x 1 with multivariate normal distribution, and Xj denotes the diagonal of the matrix n x Ki, Ki itself denotes the dimension of the vector.

In trend, in linear regression equations or OLS there is a constant β and can be optimized:

$$\beta_{GLS} = \{X'(\sum^{-1} \otimes I_N)\}^{-1}\{X'(\sum^{-1} \otimes I_{NY})\}$$

With Var (β) {X^' (∑^(-1) ┤ ⊗I_N }^(-1), in the estimation there are two procedures, the first is any OLS equation and the residual value form of equation m can use ∑ estimation in GLS estimation, through the following equation:

$$\beta_{GLS} = \{X'(\sum^{-1} \otimes I_N)X\}^{-1}\{X'(\sum^{-1} \otimes I_{NY})\}$$

The cross section value can be checked on the coefficient value mixed with the difference from the equation βj = βj' = 0 or the coefficient value of each latitudinal bin such as βj = βj'.

4. RESULT AND DICUSSION

It turns out that not only agricultural GRDP has an effect on the Poor Population, there are variables: Open Unemployment Rate, Farmer Exchange Rate, Farmer Received Index, Farmer Paid Index, Human Development Index.

The problem raised in this study is to obtain a system of regression equations in the Seemingly Unrelated Regression (SUR) model, SUR is known as an improved linear regression model consisting of many regression equations that can be related to the errors between the various equations are correlated. Each equation has one distinct dependent variable and may have a set of specialized independent variables. (SUR, n.d.)

The following are the estimation results of SUR panel data processing:

Table 1. Panel Data Results with CEM, FEM, REM, and SUR Models

Variable	MODEL			
	CEM	FEM	REM	SUR
X1	-0,47	3,27	-0,31	-0.47
	(-0,97)	(1,79)*	(-0,36)	(-2.87)***
X2	0,86	0,06	0,06	0.86
	(4,50)***	(0,67)	(0,60)	(5.59)***
X3	0,12	-0,002	-0,008	0.12
	(1,77)*	(-0,13)	(-0,32)	(1.58)*
X4	-0,14	0,005	0,007	-0.14
	(-2,10)***	(0,35)	(0,40)	(-2.07)***
X5	0,40	0,009	0,02	0.40
	(2,87)***	(0,27)	(0,62)	(3.03)***
X6	-1,13	-0,85	-0,74	-1.13
	(-9,96)***	(-7,83)***	(-8,30)***	(-12.16)***
R2	0,6402	0,2247	0,5527	0,6402
F-stat	27,58***	42,37***	210,38***	925,10***
Obs	100	100	100	100

Table 1. Shows that in the four panel data models namely Common Effect Model (CEM), Fixed Effect Model (FEM), Random Effect Model (REM), and Seemingly Unrelated Regression (SUR), the best modeling is accepted using SUR. The regression evaluation shows an R-Square value of 0.6402 (64.02%). This value means that the independent variables can explain the dependent variable in the model by 64.02%, while the remaining 35.98% is explained by other variables outside the modeling. The F-Statistic value is 925.10 and is of good size at the 1% level, this implies that simultaneously the independent variables have a considerable impact on the poor population. Individually, variables X1 (agricultural GRDP) and X6 (HDI) have a large impact on Y (poor population), indicating that the higher the agricultural GRDP and HDI, the lower the poor population will be. Meanwhile, the other variables no longer have a sizable impact on the poor individually.

Results of X1 (Agricultural GRDP) on Poor Population (Y)

Based on Table 1. the estimation results show that agricultural sector GRDP has a significant negative impact on the poor. In line with research (Todaro & Smith, 2020) that the Gross Regional Domestic Product (GRDP) of the agricultural sector has a significant negative effect on economic growth is often associated with the concept of structural transformation in development economics. This theory argues that in the early stages of development, the agricultural sector plays a dominant role in the economy. However, as the economy develops, there is a shift of resources from the agricultural sector to the more productive industrial and service sectors. As a region's economy develops, reliance on the agricultural sector, which tends to have lower productivity and value-added compared to the industrial and services sectors, can become an obstacle to further economic growth. This is because the agricultural sector often faces challenges such as weather uncertainty, underdeveloped technology, and limited economies of scale. Therefore, the large contribution of the agricultural sector to GRDP may reflect an underdeveloped economy and potentially hinder the acceleration of higher economic growth.

However, this consequences contrast with a study conducted by (Az Zakiyyah et al., 2023) which states that economic growth has a relevant impact on the poor. As the GRDP of the agricultural sector increases, so does the contribution of the agricultural sector to the economy. This can increase farmers' income, potentially reducing the number of poor people. A declining agricultural GRDP will negatively affect the poverty rate in a region. A decline in agricultural GRDP indicates a decline in productivity and value added from the agricultural sector, which can be caused by various factors including a lack of innovation and investment in agriculture, limited agricultural infrastructure, and climate problems that disrupt agricultural production. With low agricultural GRDP, the employment and income of agricultural communities are also reduced, resulting in decreased purchasing power and household consumption. Ultimately, this condition will push the poverty rate higher in the region.

GRDP illustrates the extent of economic growth in a region. Economic growth is to observe the achievement of improvement and is a condition for reducing the poverty level. The situation is that the impact of financial growth occurs in every group of society, including the

negative ones. A decrease in poverty will grow the economy, which implies the importance of increasing economic growth to reduce poverty.

Results of X2 (Open Unemployment Rate) on the Poor (Y)

The estimation results based on Table 1. explain that the open unemployment rate has a relevant positive effect on the poor population, the results of this study are in line with research (Az Zakiyyah et al., 2023) which states that the number of open unemployment has a positive effect on poverty.

The open unemployment rate having a relevant positive effect on the poor is a somewhat controversial view. It is rooted in the idea that officially measured unemployment, or open unemployment, may reflect opportunities to improve labor market conditions and reduce poverty in the long run through various mechanisms. For example, open unemployment may prompt the government to implement stronger social policies and more effective labor market interventions. Open unemployment can also force individuals to seek better jobs or improve their skills, which in turn can increase their future productivity and income. Moreover, high open unemployment often spurs innovation and entrepreneurship as a means for individuals to escape poverty, as they are forced to look for alternatives to formal employment. However, it is important to note that these positive effects tend to arise in the context of appropriate policies and adequate government support. Without such interventions, open unemployment is more likely to worsen poverty conditions than improve them. (Suripto et al., 2020)

Results of X3 (Farmer Exchange Rate) on the Poor (Y)

The estimation results based on Table 1. show that the farmer exchange rate has a positive influence on the poor, the results of this study are in line with research (Yacoub & Mutiaradina, 2020) where the results of this study show that farmer exchange rate has a positive effect on rural poverty. This explains that the increase and decrease in farmer exchange rate has a large impact on poverty in rural Indonesia.

The idea that the farmer exchange rate has a positive effect on poverty reduction is based on the idea that an increase in the farmer exchange rate reflects an improvement in the economic welfare of farmers. An increase in the farmer exchange rate means that farmers get more value from their agricultural produce, which can increase their purchasing power. With increased purchasing power, farmers can better fulfill their basic needs, invest in education and health, and possibly expand their farming business by purchasing better farming tools or technology. All these factors contribute to improved welfare and poverty reduction in rural areas, where most of the poor population lives and depends on the agricultural sector.

Furthermore, an increase in farmers' exchange rate can encourage more investment in the agricultural sector, both from farmers themselves and from outside parties. This investment can increase agricultural productivity, create jobs, and boost economic growth in rural areas, ultimately reducing poverty. Therefore, policies that increase farmers' exchange rates, such as farm input subsidies, rural infrastructure, and better market access, can be important tools in poverty alleviation strategies. (Yacoub & Mutiaradina, 2020)

Therefore, to reduce poverty in rural areas, more comprehensive efforts are needed than just increasing farmers' income. The government needs to address the various factors that cause

poverty in rural areas, including increasing access to education and skills, improving rural infrastructure, providing access to financial offerings, strengthening the implementation of social safety nets, building better market infrastructure, and inspiring policies that favor smallholder farmers.

Results of X4 (Index Received by Farmers/IT) on the Poor (Y)

Based on Table 1. the estimation results show that the index received by farmers has a significant negative effect on the poor, this reseacrh assumption is in line with research (Rukmana et al., 2019) The price index received by farmers has a negative effect on poverty based on the direct relationship between the price farmers receive for their agricultural products and their income and welfare. The farmer price index reflects the average price that farmers receive for the products they sell. When the Farmer Price Index increases, it means that farmers get a higher price for their crops, which can directly increase their income. Higher income allows farmers to better fulfill their basic needs, such as food, education, and health. In addition, increased income can enable farmers to invest in better agricultural equipment and technology, improve their productivity and production efficiency, and provide opportunities for diversification of their businesses. All of these contribute to improved economic welfare and poverty reduction in rural areas. With increased income, farmers also have more ability to save or access credit, which can be used for further investment in their farming businesses or diversification into other sources of income. Increased purchasing power of farmers can also stimulate the local economy through increased demand for goods and services, which in turn can create additional employment in rural communities.

Results of X5 (Farmer Paid Index/IB) on Poor Population (Y)

Based on Table 1. the estimation results show that the index paid by farmers has a significant positive effect on the poor, this reseacrh assumption is in line with research (N. Sari & Rahmayati, 2019) which states that the index paid by farmers has a positive impact on poverty, this implies that high IB can contribute to an increase in poverty.

The price index paid by farmers has a significant positive effect on poverty based on the concept that increased costs incurred by farmers for production and consumption can worsen their economic conditions. The price index paid by farmers reflects the prices paid by farmers for goods and services needed for agricultural production as well as household consumption needs. When the price index paid by farmers increases, it means that the cost of production inputs such as seeds, fertilizers, pesticides, farm equipment, as well as other consumer goods also increases.

An increase in the Price Index paid by farmers reduces farmers' purchasing power as they have to spend more money to obtain the same goods and services. As a result, the profit margin from their produce becomes smaller if the selling price of agricultural products does not experience a comparable increase. This can lead to a decline in farmers' real income and lower their welfare. In the long run, this condition may force farmers to reduce investment in agricultural technology and inputs, which may lower their productivity and yields.

In addition, an increase in the Price Index paid by farmers may also force farmers to take unproductive measures such as selling productive assets or shifting to other less profitable

economic activities, in order to meet basic needs. This can lead to a deepening cycle of poverty, where farmers struggle to increase their production and income, which in turn results in a decline in overall welfare.

Results of X6 (Human Development Index) on Poor Population (Y)

Meanwhile, based on Table 1, HDI has a significant negative linearity on the number of poor people, this understanding is in line with research (Az Zakiyyah et al., 2023) which states that HDI has a negative effect on poverty.

In accordance with the theory of Ravi Kanbur and Lyn Squire (1999) in (Yuniarti & Sukarniati, 2021) the concepts described show that improvements in health and education have the potential to reduce poverty. Improvements in the health sector made by the government can improve people's health, while quality education allows children to receive a good education, which in turn improves their abilities and knowledge. This can result in increased productivity and income, resulting in greater economic growth, and ultimately reducing poverty levels. However, there is a gap between plans and achievements in the poverty reduction programs pursued by poverty reduction programs pursued by the government. This is because the focus of regulation and program implementation that tends to stick to a sectoral approach.

EXPLANATION

Poor Population

The poor can be defined as the population group that has an average consumption or income per capita per month below the poverty line. The poverty line itself is the rupiah value of the minimum consumption of food and non-food items required by each individual to live a physically decent life. (Lubis et al., 2022)

GRDP of agriculture sector

Gross Regional Domestic Product (GRDP) is the value of final goods and services produced by all economic units in a region within a certain period of time, usually one year. GRDP is one of the important indicators to measure the economic growth of a region. The agricultural sector GRDP itself is a component of GRDP derived from the added value generated by all activities in the agricultural sector. This includes food crops, plantation crops, forestry, livestock, and other agricultural services.

Open Unemployment Rate

Unemployment is a group of people who belong to the labor force and want to work but have not yet gained access to work. However, if they are not actively looking for work then they are not included in the unemployment group. Unemployment is caused by labor market imbalance, meaning that the number of workers who are looking for work or who are offered is greater than the demand for labor or the number of workers who are requested. To measure unemployment in a country, the unemployment rate is usually used, namely the total

percentage of the labor force which states the total number of unemployed people, which means the labor force, namely a group of people who are of working age or not in education by calculating the number of people who are working and not working. (S. P. Sari & Darussamin, n.d.)

Farmer Exchange Rate

BPS states that the Farmer Exchange Rate is a proxy indicator of farmer welfare which is a comparison between the price index received by farmers and the price index paid by farmers. In theory, farmer exchange rate is to measure the welfare of farmers, namely to see the income and expenditure of farmers if the income is greater than the expenditure then the welfare of farmers will increase, and vice versa. Based on this ratio, it can be said that the higher the farmer exchange rate, the better the profit received by farmers or the better the position of farmers. (Maulidina et al., n.d.)

Price Index Received by Farmers

The index received by farmers is one of the indicators to measure the welfare level of farmers. In general, price index received by farmers is defined as the ratio between the exchange rate received by farmers and the exchange rate at the final consumer level. In other words, price index received by farmers is the ratio of the price received by producer farmers to the price paid by consumers. The price index received by farmers value illustrates the distribution of marketing margins among marketing institutions from the farm level to the final consumer. (Rukmana et al., 2019)

Price Index Paid by Farmers

The index paid by farmers is a price index that shows the development of prices for farmers' household needs, both for household consumption and for the agricultural production process. Price index paid by farmers is compiled based on self-price data of a number of commodities consumed and needed by farmers such as rice, sugar, cooking oil, fertilizers, pesticides, and agricultural tools. According to BPS (2015), the index paid by farmers shows the price development of farmers' household needs. These farm household needs are used for household consumption or as raw materials in the agricultural production process. Price index paid by farmers aims to measure the average change in prices for commodities of production goods and services, additional capital goods, and consumption of farm households in a certain period. Price index paid by farmers serves to see fluctuations in goods consumed by farmer households. (Yesi & Sugiarti, 2021)

Human Development Index

HDI explains how the population can access the results of development in obtaining income, health, education, and so on. HDI measures human development achievements based on a number of basic components of quality of life as a measure of quality of life. The HDI was developed by the United Nations Development Program (UNDP) in 1990. HDI is used to measure human development performance in countries around the world. HDI is an important indicator to measure success in efforts to build the quality of human life (society/population). HDI can determine the rank or level of development of a region/country. For Indonesia, HDI is strategic data because in addition to being a measure of government performance, it is also

used as one of the allocators for determining the General Allocation Fund (DAU). (Fitriana et al., 2020)

5 CONCLUSION & RECOMMENDATION

It aims to recognize the function of the agricultural sector in poverty alleviation efforts. The issue of poverty alleviation through strengthening the agricultural sector can be analyzed in the modern context of Indonesia, which still faces high poverty and inequality. Statistics show that most of Indonesia's poor population, which reached 9.78% in September 2022, live in rural areas and rely heavily on the agricultural sector. However, the agricultural sector makes an important contribution to the Indonesian economy, accounting for around 13% of GDP and absorbing 29.55% of the labor force in 2022. However, the productivity and added value of this sector are still considered very low, therefore research on the position of strengthening economic growth in the agricultural sector in poverty alleviation efforts is very important and strategic to do.

The results of this study only apply to samples taken from a particular population, the results may differ if taken from a different population. Further research needs to be done using a larger and more diverse sample to increase the generalizability of the results.

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