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Empirical Analysis And Financing Of Agricultural Sector In East Java

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Abstract

Purpose: *Agriculture is one of the leading sectors in East Java as indicated by its contribution of 11.90% to the total Gross Regional Domestic Bruto (GRDP). Agriculture, forestry, and fishery businesses were also reported to have experienced the highest growth of 12.23% in quarter I-2021. East Java is Indonesia's most significant agricultural product-producing province but several factors were discovered to be causing GRDP fluctuations in the farming industry. Therefore, this study was conducted to analyze the relationship and response of the agricultural sector GRDP to the Farmer's Exchange Rate (FER), financing of Islamic commercial banks (PBS), funding from Islamic People's Financing Bank (PBPRS), and inflation (INF).*
Methodology/approach: *The analysis was conducted using the Vector Error Correction Model*
Results/findings: *The results showed that the FER was positively related to GRDP and this means an increase in the farmer's welfare encouraged growth in the GRDP of the sector. The PBS and PBPRS were also observed to have a positive contribution to the GRDP. Meanwhile, inflation was found to be negatively related and this means a price increase led to a lower GRDP. However, the inflation rate in East Java was observed to be relatively stable at an average of less than 3 percent. Regarding the response, the results showed that the GRDP, FER, and PBS responded positively while PBPRS and inflation reacted negatively in the short term. Furthermore, the variance test conducted revealed that the most significant factor affecting the sector was the GRDP at 79.25 percent followed by PBS at 9.1 percen, the farmer's exchange rate at 7.9percent, inflation at 3.2, and BPRS at 0,38 percent*
Limitations: *This research focuses on the factors that influence the growth of the agricultural sector in East Java*
Contribution: *Hopefully, this research will be useful for academics, practitioners, especially in agricultural growth. Moreover, this research can also contribute to formulating economic development policy strategies in East Java.*
Novelty: *In addition to examining the agricultural sector in East Java, this research also reports on financing factors. A relatively small number of studies combine two financing factors. .*

Keywords: *Agriculture sector, Village SDGs, Vector Error Correction Model.*

1. Introduction

Agriculture is positioned significantly as one of the three major business sectors in East Java. The sector consistently [1]ranked third after manufacturing and trade from 2016 to 2020 by contributing over 11% to the regional economic growth of the area. Recent data from the East Java Statistic Central Bureau in 2021 also showed that the

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agriculture, forestry, and fisheries business sector accounted for 11.90% of the gross regional domestic product (GRDP) (Badan Pusat Statistik Jawa Timur, 2021). This means it was the mainstay sector and the safest foundation to cushion the effect of the Covid-19 pandemic (Kementerian Pertanian, 2020b; Kominfo Jatim, 2022).

The agriculture sector was discovered to have an important role in the economic recovery period as observed in the important lessons learned from the pandemic. This was based on two reasons, first, in terms of urgency, agriculture is an important supporter of food security during the economic crisis and recovery. Second, the pandemic provided a better opportunity for the revitalization of the sector to ensure it becomes more significant and contributive to the economy (Supriadi, Suharto, & Sigalingging, 2022)(Yusuf et al., 2020). Agriculture was also reported to be the mainstay sector and the foundation of East Java's economy during the pandemic (Kementerian Pertanian, 2020b; Kominfo Jatim, 2022). Therefore, the sustainability of the agricultural sector should be supported by competitive sources of financing formulated based on the principle of partnership to expose the actors to the assistance needed to move the wheels of the regional economy (Ashari & Saptana, 2016; Kementerian Pertanian, 2015, 2020a). The availability of adequate financing facilities can affect the productivity of sector actors and also increase the income of farmers and the price index (Kementerian Pertanian, 2020). Amendment of land management policy laws encourages the rational and efficient utilization of land and natural resources; ensures the preservation of natural and cultural values and prevents environmental damage based on the principles of sustainable development (Biyanto, Fadlan, & Prasetiasari, 2023; Tiimub et al., 2023).

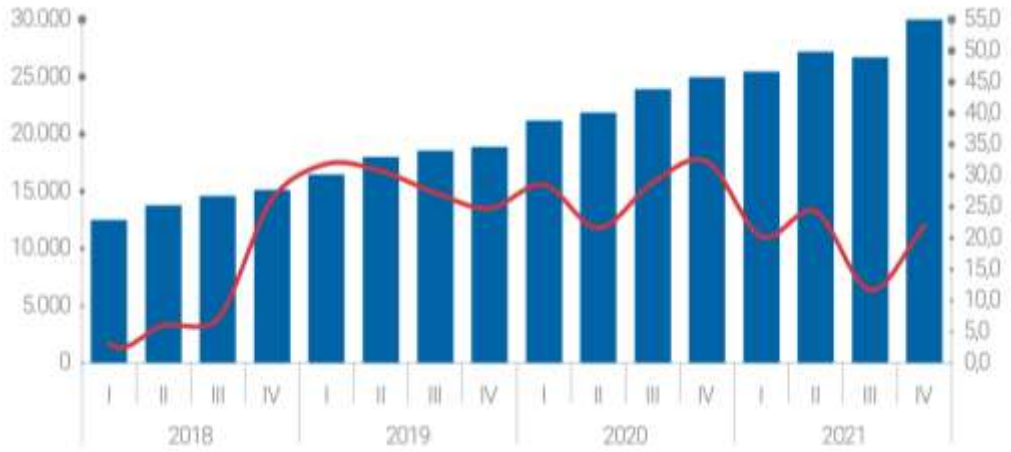

Figure 1. Credit for Agriculture Sector in East Java Province 2018 – 2021
Source: (Bank Indonesia, 2022)

Data from the East Java economic report published by Bank Indonesia showed that an increase in agricultural BS lending led to an improvement in the performance of agriculture, forestry, and fisheries BS. Agricultural credit was observed to have grown by 21.94% (yoy) in the fourth quarter of 2021 compared to the previous (Bank Indonesia, 2022). Meanwhile, when viewed as a whole, total agricultural credit has shown a declining trend from 2018 up to the third quarter of 2022. The comparison with other sectors also showed that the share of public and private commercial and rural banks (BPR) credits provided to the agricultural sector in 2020 was only 3%. This was found to be significantly lower than the percentage received by the trade, restaurant, hotel, and industry sectors which were set at 26% and 23% of the total credit of IDR 1,063,379,662 million, respectively (BPS Jawa Timur, 2021).

Apart from the financing side, the acceleration of agriculture, forestry, and fisheries BS performance was also supported by increasing growth in the price index received by farmers. This was evident from the report of Bank Indonesia (Bank Indonesia, 2022)

that the price index received by farmers in East Java in the fourth quarter of 2021 was 112.55 and this was higher than the previous quarter. This increase showed there was more demand followed by an increase in prices for food crops, horticulture, plantation crops, livestock, and fisheries as commodities. Another factor required to be considered was the inflation rate which was observed to be reducing the exchange rate for the farmers and purchasing power of power, thereby, worsening income distribution. Previous study also showed that the increase in prices sometimes preceded the increase in income and this subsequently led to a reduction in real income and exchange rate for the farmers (Svongoro, Chigora, & Katsande, 2023)(Bafadal, 2014).

The efforts to increase the portion and quantity of financing to the East Java agricultural sector require providing alternative sources and financing schemes developed based on the Sharia model with due consideration for the principles of togetherness and justice. The financing schemes with Sharia were found to be a positive initiative by the Ministry of Agriculture in 2005 through the assessment of the Sharia savings movement (GEMA SYARIAH) (Ashari & Saptana, 2016). It was reported that Islamic financing was characterized by an interest-free scheme designed based on the principle of profit and loss sharing at the end of the transaction (Bora, Fanggidae, & Fanggidae, 2023)(Iqbal & Mirakhor, 2011; Usmani, 2012). This scheme was proposed to be applied as an alternative financing source for the agriculture sector in order to provide mutual benefits as well as to strengthen the position of each party in the transaction, specifically in terms of the bargaining power of farmers (Pathiraja, Karunarathne, Hewage, & Jayawardena, 2021; Prakoso, Pradipto, Roychansyah, & Nugraha, 2020; Suharto, Angkupi, Dacholfany, & Susminingsih, 2021; Syarif & Riza, 2022)(Majid, 2021).

The effort to strengthen and increase the quantity of Islamic financing in the East Java agricultural sector has great opportunity and potential. This is because the province is popular in the country for being religious and serves as a home to several Islamic boarding schools with approximately 323.3 thousand students which is the largest in Indonesia (katadata.id, 2021). Moreover, East Java has also been named as one of the centers of Sharia economic development and recently won three champions at once in the 2022 Adinata Sharia Award event including the first in the Sharia Microfinance Category, first in the Sharia Economic Education Category, and second in Islamic Boarding School Economic Empowerment Category (KNEKS, 2022). This condition further led to the need to strengthen the agricultural sector of the province through Islamic financing schemes because it aligns with the vision of the provincial government. The approach does not only support economic development but also creates a mutually beneficial ecosystem within the Islamic commercial and social finance industry.

Based on the aforementioned phenomenon, this study focused on examining the relationship between Islamic financing, farmer exchange rates, inflation rates, and the agricultural sector in East Java. The results are expected to serve as a reference in formulating policies to strengthen the competitiveness and sustainability of East Java's agricultural sector as well as to improve the welfare of the actors.

2. Literature review and hypothesis development

2.1. East Java Agriculture Sector

Agriculture is a crucial sector of the national economy due to its contribution to the national Gross Domestic Product (GDP), employment, national food supply, foreign exchange earnings, and the welfare of rural communities (Kementerian Perencanaan Pembangunan Nasional, 2015; Kementerian Pertanian, 2020a; Nurdin, 2016). These agricultural, forestry, and fisheries activities included all efforts and enterprises associated with nature and were observed to be in the form of biological or living objects or goods used by individuals for personal consumption or commercial purpose. Some of those related to agriculture include food, horticulture, and plantation crops,

animal husbandry and hunting services, as well as forestry and logging. The activities linked to fisheries activities include catching, hatching, and cultivating all types of fish and marine biota living in freshwater, seawater, or brackish water (Badan Pusat Statistik Jawa Timur, 2021).

As one of the national food barns, East Java had a harvest area of 1,761.88 thousand Ha with total rice production reaching 10.02 million tons in 2020. In the livestock subsector, there were 4,823.97 thousand cattle with meat production reaching 91.16 tons, 10,476 horses with 22.87 tons, 3,645.8 thousand goats with 23.18 thousand tons, 1,419.5 thousand sheep with 6.55 thousand tons, and 238.22 million heads of broilers with 364.1 thousand tons (Badan Pusat Statistik Jawa Timur, 2022).

The performance of the agriculture, forestry, and fisheries sectors improved in the fourth quarter of 2021 as indicated by the increase in the gadu rice harvest at several points in East Java. The harvest area of the rice production was observed to have increased by 243.20 Ha or 2.13% compared to the previous year. The highest was recorded in Ponorogo regency (53.50% yoy) followed by Tulungagung (49.71% yoy), Pasuruan (26.08% yoy), Bojonegoro (23.48% yoy), Lumajang (23.15% yoy), and Ngawi regencies (7.72%) (Bank Indonesia, 2022).

The good performance recorded in the East Java agricultural sector during the pandemic was attributed to the favorable weather conditions and the economic recovery initiatives implemented by both the Regional and Central Governments. These programs include the reinforcement of cooperative farming through collaborations with corporations to enhance product quality, the establishment of agropolitan areas, the integration of horticultural processing, the implementation of value-added product programs through the 'pick, process, pack, and sell' approach, the promotion of agro-based food product development, and the introduction of insurance programs for farmers, fishermen, and cattle (Bank Indonesia, 2022).

2.2. Farmer Exchange Rate (FER)

The FER is normally used to compare the index number of prices received (It) and paid (Ib) by farmers. A FER value above 100 indicates a surplus for farmers, signifying that the increase in the price of their produce outpaces consumer prices or their income surpasses their expenses. Meanwhile, a FER value below 100 indicates that the increase in production prices is relatively smaller compared to the rise in the prices of goods consumed by farmers. There is a breakeven when the FER is 100 and this means the income of the farmer is equal to the expenditure (BPS, 2022b).

The FER from the Ib side can be used to determine the fluctuations in the price of goods consumed by farmers and those needed for the production of agricultural products. Meanwhile, the It side can be used to determine the fluctuations in the price of goods produced by farmers and the supporting data to calculate the income of the agricultural sector. FER is generally a valuable metric to assess the exchangeability of products sold by farmers with those required for production and household consumption. The concept compares the competitiveness level of agricultural products to goods from other sectors (BPS, 2022b).

2.3. Consumer Price Index (CPI)

The Consumer Price Index (CPI) is a key indicator to calculate the average change in the price of a package of goods and services consumed by households within a certain period. The concept can be used to measure the inflation rate because the changes in the CPI over time normally indicate the rate of price change (inflation/deflation) of goods and services. In January 2020, there was a shift in Indonesia's inflation measurement methodology, driven by alterations in people's consumption patterns. Consequently, the CPI with the base year of 2018 (CPI 2018 = 100) was utilized. This modification was based on the 2018 Living Survey Cost (LSC) conducted by BPS. Therefore, significant differences were observed between the 2018 and 2012 CPI in

terms of coverage, classification of commodity groups, calculation methodology, commodity packages, and weighting diagrams (BPS, 2022a).

2.4. Sharia Financing in the Agricultural Sector

From a Sharia perspective, lending and borrowing is a highly recommended and permissible economic activity because it provides mutual benefits. The concept is perceived as a social activity associated with the absence of profit on the nominal amount of money lent. This is because any surplus gained from a loan, in the form of financial or material benefits or non-commercial advantages—such as farmers being compelled to sell to intermediaries due to prior loans—falls under interest, which is considered usury and prohibited by religious principles. Therefore, in Islamic financial institutions, the terms 'loan' or 'credit' are replaced with 'financing' to align with the religious guidelines (Ashari & Saptana, 2016).

Sharia financing is a scheme/contract/model that does not violate Sharia principles. According to (Obaidullah, 2015), there are two main fundamental principles considered relevant to ethics and norms. The first is the prohibition of usury and uncertainty (gharar) on the object of the transaction. Islamic finance experts also added the prohibition of dzolim, which encompasses arbitrary actions and the infringement upon the rights of the counterparty, as well as the failure to fulfill agreed-upon obligations within the contractual framework. (Adil, Sapar, Marhani, & Rosa, 2024)(Tarmizi, 2020; Usmani, 2012).

In a broader context, usury can occur in debt and credit or buying and selling transactions. In the context of debts, the additional benefit obtained or enjoyed by the creditor is agreed upon in advance. Meanwhile, in relation to buying and selling, usury is the difference in weight or volume and delays in delivery of transacted objects under ribawi asnaf such as gold, silver, coarse grain, fine grain, dates, salt, and other basic needs that can be stored for a long time (Tarmizi, 2020). The prohibition of usury indicates the existence of financial or non-financial benefits received by the lender or creditor for the debt provided. The second is the prohibition of gharar which indicates the risk of uncertainty inherent in the object of goods, prices, delivery times, good specifications, and others (Obaidullah, 2015; Usmani, 2012). These restrictions cumulatively allow the regulation of balance as well as the distribution of justice and equality between the stakeholders involved in the transaction (Usmani, 2012).

2.5. Islamic Financing Agreements and Schemes in the Agricultural Sector

Islamic finance literature discovered different types and instruments within the agricultural sector that adhere to Sharia principles and avoid the two major prohibitions discussed. These financing options were generally categorized into two types: debt-based financing which includes sale and lease arrangements as well as equity-based financing such as trade and trust structures (Obaidullah, 2015).

1) Bai Muajjal-Murabahah (credit-cost plus sale)
   This type of transaction refers to a sales arrangement in which the buyer defers the payment of the price to a later date. In certain cases, it may incorporate one of the characteristics of murabahah transactions where the selling price exceeds the cost price, and the resulting difference represents the profit for the seller (Obaidullah, 2015).
2) Ijarah (lease)
   Similar to leasing in the conventional context, ijarah in Islamic finance refers to the sale of a benefit, which entails transferring the right to use an asset or property for a specified period(“Handbook of Islamic Banking,” 2007; Usmani, 2012). In financial institution practice, ijarah is a contract wherein the bank acquires, manages, and leases assets or equipment to customers in order to generate rental fees that serve as the bank's profit. The responsibility for maintenance and insurance lies with the owner of the goods, which in this case

is the Islamic financial institution, reflecting the risks it assumes. Within the ijarah contract, the hirer (the financial institution as the owner of the goods) retains the right to renegotiate the rental amount and payment terms. This enables the leasing rate to align with market conditions and asset values, ensuring its ongoing relevance and competitiveness ("Handbook of Islamic Banking," 2007).

3) Bai'-Salam (deferred delivery)
   Salam is a type of sale-purchase transaction wherein the seller agrees to deliver a specific product or commodity, that meets the buyer's desired criteria, at a future date. In exchange for the delivery, the buyer makes a fully paid cash payment in advance, equivalent to the spot price of the product or commodity (Obaidullah, 2015; Usmani, 2012).
4) Musyarakah (partnership)
   Musyarakah comes from an Arabic word that means 'sharing'. In business and commerce, this concept means a joint enterprise, joint venture, or joint-business partnership in which the profits and losses of the business are borne by all parties involved (Usmani, 2012).
5) Mudharabah (Profit and Loss Sharing)
   Mudharabah is a form of partnership or collaboration where one party acts as an investor (rabbul maal) that finances the project while the other party acts as the project manager (mudharib) ("Handbook of Islamic Banking," 2007). This concept is divided into two types based on the flexibility of running the business operations by mudharib, and these include the mudharabah mutlaqoh (unlimited) and muqoyyadah (limited) (AAOIFI, 2017; Obaidullah, 2015; Usmani, 2012).

3. Methodology

This study was conducted using a quantitative and qualitative approach also known as the mixed method. The quantitative aspect focused on acquiring data in the form of numbers or numerals as well as formulating and testing hypotheses using statistical procedures. Meanwhile, the qualitative aspect focused on collecting data through descriptions derived from primary and secondary data through the stages of sample collection and data analysis (Ashari & Saptana, 2016). This study used multiple regression analysis in the form of the Vector Error Correction Model (VECM) to analyze the quantitative data and the review of literature from BPS East Java and scientific journals for the qualitative data.

3.1. Data Collection Methods

The secondary data used for the quantitative analysis were collected from the East Java BPS statistical report and the Financial Services Authority's Islamic banking publication. The collection period was from January 2016 to December 2021. Meanwhile, the qualitative data were obtained from different primary and secondary sources including the East Java BPS e-report, Islamic banking financial reports, journals, and other relevant scientific references.

3.2. Model and Variable Description

The equation derived using the VAR/VECM regression model is as follows.

$$\mathbf{logPDRBS_t = \beta_0 + \beta_1 logNTP_{1t} + \beta_2 logPBS_{2t} + \beta_3 logPBPRS_{3t} + \beta_4 INF_{4t} + \varepsilon_t}$$

Description:

β_0 : Intercept
GRDP : Gross regional domestic product of the agricultural sector in the t-th period
FER : Farmer exchange rate in period t
PBS : Islamic Commercial Bank Financing in the agricultural sector in t-period

PBPRS : Sharia People's Financing Bank Financing in the agricultural sector in the t-th period
INF : Consumer Price Index inflation in the t-th period
ε : error term

Table 1. Variable description

No	Variable	Period	Sample Quantity	Source
Bound variable				
1	GRDP of Agriculture Sector	January 2016 - December 2021	72	BPS East Java
Independent variable				
2	Farmer Exchange Rate	January 2016 - December 2021	72	BPS East Java
3	Agricultural Sector Financing by Sharia Commercial Banks	January 2016 - December 2021	72	Financial Services Authority
4	Agricultural Sector Financing by BPRS	January 2016 - December 2021	72	Financial Services Authority
5	Inflation	January 2016 - December 2021	72	BPS East Java

Source: BPS East Java, Financial Service Authority Processed by author

3.3. Analysis Method

VECM is a subset of Vector Autoregressive Analysis (VAR). The VAR/VECM model was introduced by Christopher A. Sims in 1980 as an alternative to time series analysis usually applied to macroeconomic data. The goal was to determine the simultaneous relationship between variables (Ashari & Saptana, 2016). The VECM model was designed for the situation when variables are cointegrated with a focus on short-term equilibrium changes. It was recommended to be used on one lag in the analysis by testing the causal relationship using Granger Causality, the effect of shocks between variables using Impulse Response Function, and the variation between variables using variance decomposition (Ashari & Saptana, 2016).

3.4. Model VAR/VECM

The VAR model developed after the causality tests conducted in line with (Ashari & Saptana, 2016) is presented as follows:

$$Y_t = \beta_{1i} + \sum \beta_{1i} Y_{t-1} + \sum \gamma_{1i} X_{t-i} + \varepsilon_t$$

and

$$Y_t = \beta_{2i} + \sum \beta_{2i} Y_{t-1} + \sum \gamma_{2i} X_{t-i} + \varepsilon_t$$

The best VAR/VECM equation was determined by comparing the Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) values. The results were observed in the form of the lag value showing the high AIC and SIC values. The VAR estimation model was considered beneficial because of its simplicity, easy estimation, and better forecast than other simultaneous methods (Ashari & Saptana, 2016).

Stages of analysis

1. Stationarity test

This test was conducted to determine the nature of stationarity in each variable using the Augmented Dickey-Fuller Test (ADF) developed by Dickey and Fuller (Ashari & Saptana, 2016).

2. Causality test (Granger Causality test)
   The test was used to determine the reciprocal or one-way relationship between variables based on past and current conditions using the Granger Causality model.
3. Cointegration test
   Cointegration test was used to deal with variables that are non-stationary but exhibit stationary linear relationships. The was conducted using the Engle-Granger or the Johansen Test.
4. Impulse Response Function (IRF)
   IRF was used to predict the result of the test conducted on the VAR model. This method can generally forecast the movement of variables affecting future conditions.
5. Variance Decomposition
   Variance decomposition was used to determine the simplification structure in a set of variables. It was also explained as the contribution of the variance of each variable to changes and forecasts in future conditions (Ashari & Saptana, 2016).

4. Results and discussion

4.1. Stationarity Test Results (Unit root test)

The ADF results in Table 1 showed that the test probability value was 0.0000 <0.05. This means the GRDP, FER, PBS, PBPRS, and INF variables, including their intercepts, were rejected by the null hypothesis, therefore, they were all stationary at the level.

Table 2. ADF Stationary Test Results

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.97506	0.0000	5	354
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.26450	0.0000	5	354
ADF - Fisher Chi-square	59.9614	0.0000	5	354
PP - Fisher Chi-square	65.1696	0.0000	5	355

** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.

4.2. Optimal Lag Determination

The lag determination was used to examine the long-run relationship using the Johansen method. The lag selection criteria were observed from the Akaike Information Criterion (AIC), Quinn Information Criterion (QIC), and Schwarz Information Criterion (SC) values. The best lag had the lowest AIC, SC, and HQ values, and these were found in Lag 1 with the AIC value of 1.141593 in the following table.

Table 3. Optimal Lag Determination

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-178.7542	NA	0.000142	5.326208	5.488100	5.390436
1	-9.384959	309.2829*	2.16e-06*	1.141593*	2.112944*	1.526960*
2	7.485750	28.36235	2.77e-06	1.377225	3.158034	2.083731
3	26.64229	29.42889	3.37e-06	1.546600	4.136869	2.574246

4.3. Estimation stability test

The stability test was used to determine the stability of the VAR model. The results showed that there was no root value with a modulus value of less than 1 as indicated in the circle. According to Gujarati (2003), the model can be considered stable when all root test values were less than 1.

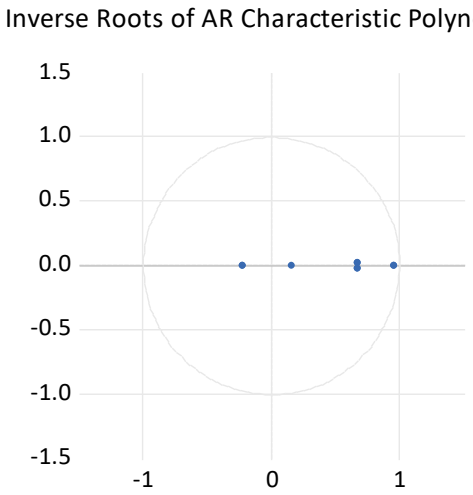

Figure 2. VAR stability test graph

4.4. Granger Causality Test

The results showed a relationship between the financing of the PBS and the PBPRS with a probability value of 0.0131 < alpha 0.05. Previous studies showed that poor Muslim farmers need usury-free financing. Moreover, Qardhul hasan contract was found to be a suitable option to fulfill the beneficial needs of farmers, banks, or Islamic financial institutions (Ashari & Saptana, 2016).

One-way causality was also recorded in the relationship between the GRDP of the agricultural sector and the FER as indicated by 0.0569 < alpha 0.10. This means the growth of the agricultural sector in East Java was supported by an increase in the exchange rate received by farmers. Moreover, agricultural productivity was positively related to agricultural workers, inputs, weather risk, and land fertility. The concept has also been previously reported to be driving the growth of household consumption for farmers (Ashari & Saptana, 2016). Meanwhile, there was no unidirectional or simultaneous relationship between the other variables.

Table 4. Granger Causality Test Results

Null Hypothesis	**Obs**	**F-Statistic**	**Prob.**	**Results**	**Description**
FER does not affect Granger Cause GRDP,	71	3.75221	0.0569	Ho was rejected	Unidirectional relationship between

GRDP does not affect Granger Cause FER		0.38871	0.5351	Ho was accepted	FER and agricultural sector GRDP
PBS does not affect Granger Cause GRDP, GRDP does not affect Granger Cause PBS	71	1.56379	0.2154	Ho was accepted	There was no relationship.
		1.22623	0.272	Ho was accepted	
PBPRS does not affect Granger Cause GRDP, GRDP does not affect Granger Cause PBPRS	71	0.51248	0.4765	Ho was accepted	There was no relationship.
		0.67192	0.4152	Ho was accepted	
INF does not affect Granger Cause GRDP, GRDP does not affect Granger Cause INF	71	0.00063	0.98	Ho was accepted	There was no relationship.
		0.05136	0.8214	Ho was accepted	
PBS does not affect Granger Cause FER, FER does not affect Granger Cause PBS	71	1.53827	0.2191	Ho was accepted	There was no relationship.
		0.15268	0.6972	Ho was accepted	
PBPRS does not affect Cause FER, FER does not affect Granger Cause PBPRS	71	0.79368	0.3761	Ho was accepted	There was no relationship.
		0.35425	0.5537	Ho was accepted	
INF does not affect Granger Cause FER, FER does not affect Granger Cause INF	71	0.99352	0.3224	Ho was accepted	There was no relationship.
		0.40133	0.5285	Ho was accepted	
PBPRS does not affect Granger Cause PBS, PBS does not affect Granger Cause PBPRS	71	0.31705	0.5752	Ho was accepted	Unidirectional relationship between Islamic commercial bank financing and BPRS financing in the agricultural sector
		6.49279	0.0131	Ho was rejected	
INF does not affect Granger Cause PBS, PBS does not affect Granger Cause INF	71	0.98712	0.324	Ho was accepted	There was no relationship.
		0.12653	0.7232	Ho was accepted	
INF does not affect Granger Cause PBPRS, PBPRS does not affect Granger Cause INF	71	0.06356	0.8017	Ho was accepted	There was no relationship.
		2.20007	0.1426	Ho was accepted	

4.5. Cointegration Test

The cointegration test results showed that the best analysis model was the VEC as indicated by the Trace Statistics and Maximum Eigenvalue values. The Trace Statistic value was recorded to be 60.07147 and this was greater than the alpha critical value of 0.05 of 47.85613. Moreover, the Max-Eigen Statistic value was found to be 33.8819 and this was greater than the 0.05 critical value of 27.58434. These results showed that the VECM model had two cointegrated equations. The relationship between the dependent and independent variables was also found to be stable in both the long and short terms, even though the short term was more dominant.

Table 5. Cointegration test results (Johansen Cointegration Test)

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.450805	102.0226	69.81889	0.0000
At most 1 *	0.383697	60.07147	47.85613	0.0024
At most 2	0.194352	26.19028	29.79707	0.1231
At most 3	0.118287	11.06266	15.49471	0.2077
At most 4	0.031638	2.250477	3.841465	0.1336

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.450805	41.95113	33.87687	0.0044
At most 1 *	0.383697	33.88119	27.58434	0.0068
At most 2	0.194352	15.12762	21.13162	0.2801
At most 3	0.118287	8.812185	14.26460	0.3021
At most 4	0.031638	2.250477	3.841465	0.1336

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

4.6. Test of VECM Estimation Results

4.6.1. Long-term model

The results obtained using the estimation equation and the VECM long-term relationship are presented as follows.

LogGRDP(t-1) = -108,4236 - 3,92LogFER(t-1) + 0,66LogPBS(t-1) +11,09LogPBPRS(t-1)

+ 21,17INF(t-1)

Table 6. VECM long-run relationship

Variable	Long-term Relationship	Description
FER	Negative	Accept H_0
PBS	Positive	Reject H_0
PBPRS	Positive	Reject H_0
INF	Positive	Accept H_0

The equation showed the relationship between the FER, PBS, PBPRS, and inflation on the GRDP of the East Java Agricultural Sector. The coefficient of -3.92 for the FER means that a 1% increase in the FER led to a 3.92% reduction in the GRDP. The 0.66 coefficient recorded for the PBS indicated that every 1% increase in PBS led to an increment of 0.66% in the GRDP. For the BPRS financing, the coefficient of 11.09 showed that a 1% increase in the BPRS financing led to the growth of the GRDP by

11.09%. Moreover, the 21.17 coefficient recorded for inflation showed that a 1% increase in the GRDP led to a 21.17% increment in the GRDP of the agricultural sector.

4.6.2. Short-term Model

The estimation results and long-run VECM relationships of the short-term model are presented as follows:

GRDP = -0,047931ECT(t-1) – 0,006502D(LogGRDP(-1) + 0,077527D(LogGRDP(-2) + 0,107441D(LogFER(-1) + 0,038995D(LogFER(-2) + 3,550557D(LogPBS(-1) – 0,264626D(LogPBS(-2) + 0,517496D(LogPBPRS(-1) – 0,320074D(LogPBPRS(-2) + 0,752910 D(LogINF(-1) - 0,388163D(LogINF(-1) – 0,062580

Table 7. VECM Short-Term Relationship

Variable	Short-term Relationship
D(LogPDRBP(-1)	Negative
D(LogPDRBP(-2)	Positive
D(LogNTP(-1)	Positive
D(LogNTP(-2)	Positive
D(LogPBS(-1)	Positive
D(LogPBS(-2)	Negative
D(LogPBPRS(-1)	Positive
(LogPBPRS(-2)	Negative
D(LogINF(-1)	Positive
D(LogINF(-2)	Negative

The negative sign in the error correction value of -0.047931 showed that all the variables were heading toward long-term equilibrium. The combination of this phenomenon with the tendency of the value to approach zero also indicated that it was closing to the long-term equilibrium stage faster. Meanwhile, the coefficient of the GDRP was found to be positive and negative. This means that in the short term, the changes in lags 1 and 2 were affected by the GDRP variable. Moreover, the 0.10 coefficient recorded for the FER indicated that 1% growth in the FER led to an increment in the GRDP of the agricultural sector by 0.10%. The coefficient for the PBS was found to be -0.0.26 and this means that a 1% increase in the provision of Islamic bank financing to the agricultural sector led to the reduction of the GRDP by 0.26% as observed in lag 2. Furthermore, the PBPRS coefficient was -0.32 in lag 2 and this showed that any increase in agricultural sector financing by BPRS led to a 32% reduction in the GRDP revenue. The inflation coefficient was also -0.388 and this indicated that a 1% increase in inflation led to a reduction in the GRDP of the agricultural sector by 0.38% as observed in lag 2.

4.6.3. Impulse Response Function (IRF)

IRF was used to determine the allowances and shocks between the variables in the VECM model based on their period and responses. The analysis of the FER showed that the response of the agricultural sector GRDP, Islamic bank financing, Islamic people's financing, bank financing, and inflation was projected to fluctuate positively and negatively in the next 10 years and tend to stabilize in the 9^{th} and 10^{th} years. Moreover, the GRDP responded to the PBS positively and this means the financing provided by Islamic commercial banks had a positive effect on the GRDP of the sector. This was observed to be different from the response to financing by BPRS. Furthermore, the FER response was also found to be positive and this showed that the

growth in the farmer exchange rate was projected to influence the development of the agricultural sector GRDP in the next 10 years. The INF was negative and this means the existence of 1 standard deviation shock on the GDP made the inflation rate react negatively. This simply showed that the current inflation rate was projected to have a negative effect on the GDP in the next 10 months.

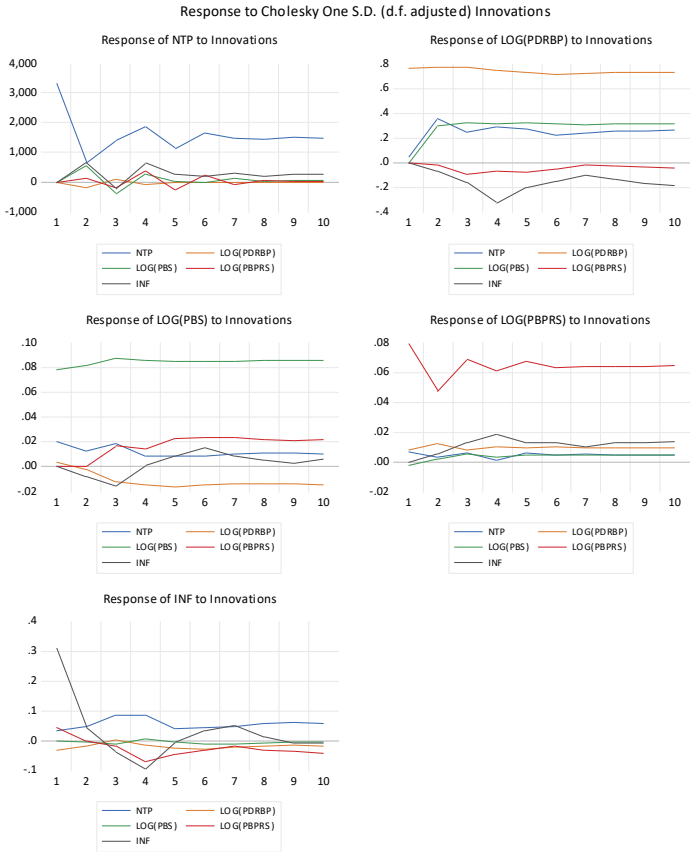

Figure 3. Impulse Response Function Result Curve

4.6.4. Variance Decomposition

The results of the variance decomposition test presented in Table 7 showed that the GRDP variable had the highest average contribution of 79.25% followed by the Islamic commercial bank financing with 9.18%, the farmer exchange rate with 7.98%, inflation with 3.21%, and BPRS financing with 3.21%.

Table 8. Variance decomposition test results

Period	SE	FER	GRDP	PBS	PBPRS	INF
1	0.76604	0.37535	99.62465	0	0	0
2	1.181818	9.066008	84.377	6.170135	0.036828	0.350028
3	1.481917	8.504363	80.90651	8.671098	0.4711	1.446935
4	1.745924	8.90112	76.58578	9.404059	0.50286	4.606181
5	1.949704	9.022625	75.29318	10.2948	0.559833	4.829564
6	2.117568	8.766293	75.16455	10.9117	0.540386	4.617066
7	2.272114	8.693381	75.37701	11.24298	0.479788	4.206838
8	2.423316	8.72794	75.29028	11.53181	0.438395	4.011569
9	2.569532	8.744596	75.10309	11.73338	0.414973	4.003969
10	2.708896	8.779396	74.8346	11.90185	0.40687	4.077289
Average	1.921683	7.9581072	79.255665	9.186181	0.385103	3.214944

4.7. Discussion

4.7.1. Relationship between Farmer Exchange Rate and Gross Regional Domestic Product of the Agriculture Sector

The short-term estimation results on lag 2 showed that the farmer exchange rate was positively related to an increase in the GRDP of East Java's agricultural sector. The average FER from 2016-2021 was recorded to be 102.88 and this showed that the farmers experienced a surplus because the increase in the price of agricultural production was greater than the price of goods or services consumed. This phenomenon improved the welfare level of farmers, specifically in regencies or cities that are agricultural centers in East Java as indicated in the GRDP of the 5 regencies supporting the agricultural sector in East Java in 2021.

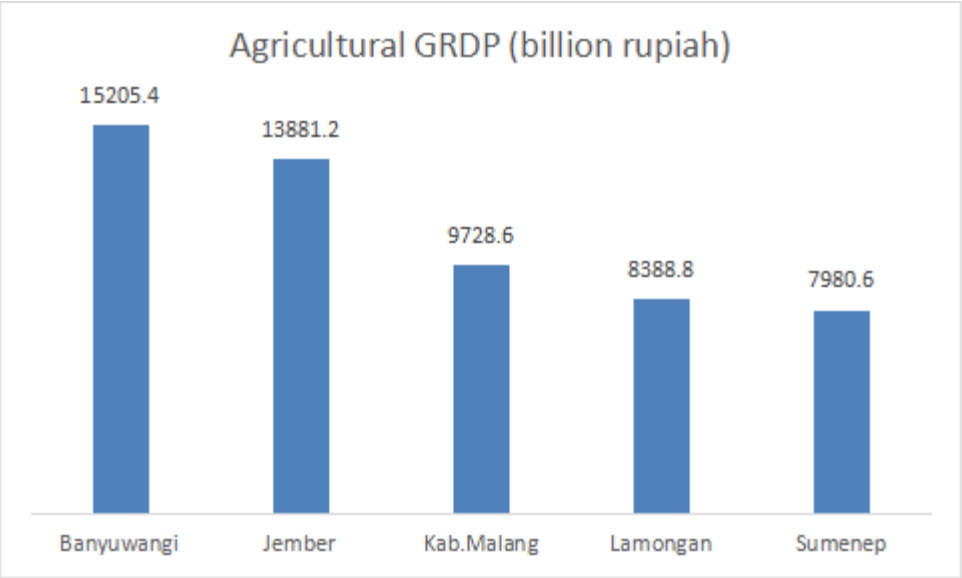

Figure 4: Agricultural centers in East Java
Source: BPS East Java 2021

The figure shows that Banyuwangi Regency had the highest contribution to East Java's agricultural sector GRDP with 15205.4 billion followed by Jember, Malang, Lamongan, and Sumenep (Ashari & Saptana, 2016). The economy of the province was found to be dominated by the agricultural, manufacturing, and trade sectors. Moreover, the structural transformation of East Java placed agriculture in the informal service sector (agricultural to the industrial sector) but focused on the sector to provide employment and drive the economy (Ashari & Saptana, 2016). The Banyuwangi community was found to have a motivation for the plantation and innovative development of organic rice products due to their farming experience and support from different parties (Ashari & Saptana, 2016). The results obtained from the data and scientific analyses showed that the East Java government needs to continue to develop the agricultural sector as a potential and leading sector by implementing a series of policies to ensure equal distribution of welfare for the farmers as well as to downstream the sector to industry and exports.

4.7.2. The Relationship Between Agricultural Financing by Islamic Commercial Banks and Gross Regional Domestic Product of the Agricultural Sector

The VECM test results showed that financing provided to the agricultural sector by Islamic commercial banks and business units was positively related to the GRDP. The Islamic banking statistics (IBS) published by the Financial Services Authority (FSA) showed a positive trend for Islamic financing in the agriculture, forestry, and agricultural facilities sector from January 2016 to January 2022. The average financing

during the period was recorded to be IDR 422.97 billion with the highest, IDR 713 billion, found in April 2021 and the lowest, IDR 191 billion, in August 2016.

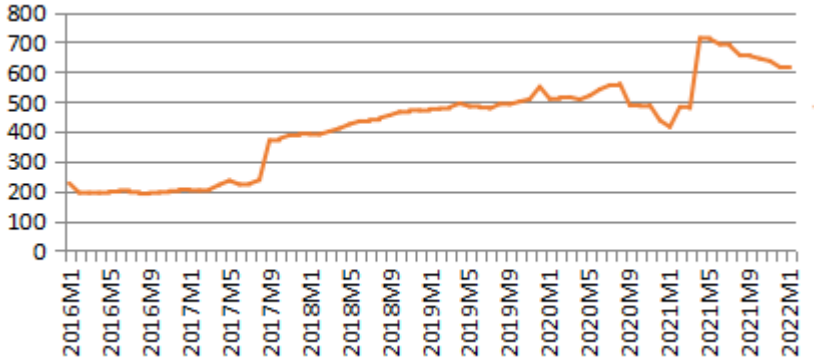

Figure 5. Total sharia finuancing, forestry and farming sector by BUS and UUS
Source: OJK Sharia Banking Statistics 2016 - 2022 Processed

4.7.3. Total Sharia Financing by BUS and UUS in the Agriculture, Forestry and Agricultural Facilities Sector

The Sharia financing schemes were differentiated from conventional banking through the unique funds tailored to the needs of the agriculture, forestry, and fisheries sectors. This made it easier for BS actors to decide on the contract to adopt. For example, those with insufficient capital used a musyarakah contract which is a partnership, combination, or merger of capital by the customer and BUS or UUS. Moreover, those with expertise and capacity in business management but without an adequate source of capital were advised to adopt a mudharabah collaboration contract that involves the customer acting as the capital manager while the BUS or UUS serves as the investor (shahibul maal) with a clear profit-sharing agreement and mutual benefit for both parties. Customers requiring only production equipment such as machinery can adopt a murabahah (sale-purchase plus margin) or ijarah contract (lease) with the BUS/UUS expected to act as the seller or tenant. Therefore, these financing options were expected to be beneficial because of their appropriateness to the conditions and needs of the customers.

The results strengthened the position of Islamic banks in developing the real sector in East Java (Ashari & Saptana, 2016). The challenge observed to be presently prevalent was the method to establish a stronger presence of Islamic banking within the integrated agricultural sector, spanning from upstream to downstream, involving internal practitioners and relevant stakeholders such as the financial services authority and the provincial government of East Java. This has presented a significant opportunity, considering that the province has been promoted as a key hub for Islamic economic development in Indonesia. Moreover, the demographic landscape of East Java, characterized by the presence of numerous Islamic boarding schools and organizations, further reinforced this potential. The diverse range of Islamic financing options, both in terms of quantity and compatibility with different religions, was found to be particularly suitable to boost the export of halal products, including raw materials from the agriculture, forestry, and fisheries sectors, in order to create a mutually supportive ecosystem.

4.7.4. The Relationship Between Agricultural Sector Financing by Islamic People's Financing Banks and the Gross Regional Domestic Product of the Agriculture, Forestry, and Fisheries Sector

The test results showed that the financing provided by BPRS was positively related to the GRDP of the agricultural sector. The SPS published by the financial services authority showed a positive and stable trend of Islamic financing provided by BPRS in

the agriculture, forestry, and agricultural facilities sectors from January 2016 to January 2022. In this period, the average financing was recorded at IDR48,992 million with the highest value recorded to be IDR74,238 million in June 2020 and the lowest was IDR41,968 million in March 2016.

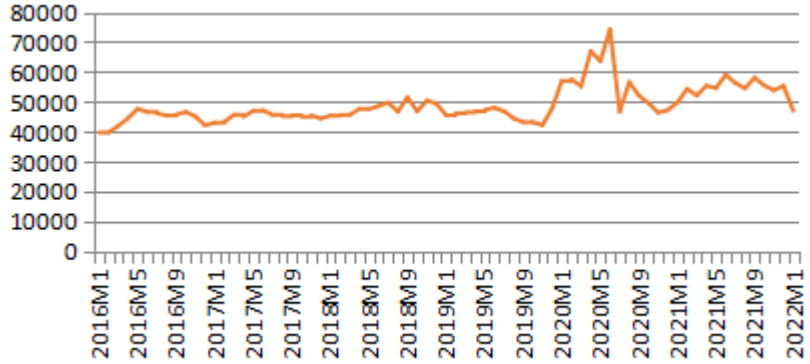

Figure 5. Total sharia finuancing, forestry and farming sector by BPRS
Source: OJK Sharia Banking Statistics 2016 - 2022 (Processed)

4.7.5. Total Sharia Financing by BPRS in the Agriculture, Forestry, and Agricultural Facilities Sector

Similar to BUS and UUS, BPRS was also observed to have different contract schemes and some were considered debt-based such as murabahah and ijarah while others were equity-based such as musyarakah and mudharabah (Obaidullah, 2015). This diversity indicated the possibility of targeting the needs of the actors in the sector. Moreover, Islamic banking products with the ability to meet the needs of the real sector have been discovered to be in a stronger position to ensure sustainability of the sector (Ashari & Saptana, 2016)

Socialization, literacy, and education about Islamic banking products need to be conducted continuously to improve the Islamic financial literacy index of East Java which was only 28.27% in 2019, thereby, indicating only 28 people out of 100 understood Islamic financial products. The survey conducted by FSA in 2019 also showed that the East Java Islamic financial inclusion index was 23.56% and this was lower than the literacy index (Otoritas Jasa Keuangan, 2021). This implicitly indicated that only 23 out of a total of 100 people used Islamic financial products while the rest did not use these schemes or focused on conventional financial products.

4.7.6. Relationship between Inflation and Gross Regional Domestic Product of the Agricultural Sector

The test results showed that inflation was positively related to agricultural GRDP. The inflation in East Java was observed to have fluctuated from 2016 to 2021 with the highest recorded to be 3.99% in 2017 while the lowest was 1.44% in 2020.

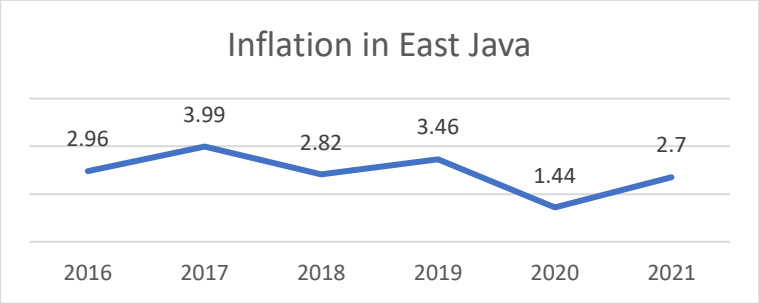

Figure 6. Inflation in East Java from 2017 – 2021

Source: (Ashari & Saptana, 2016)

The inflation in East Java pushed up the prices of agricultural products, both primary and secondary, as indicated by the high rate of 2.27% recorded in the food, beverage, and tobacco expenditure category by the BPS in 2020. This showed that an increase in the inflation rate simultaneously improved the GRDP of the East Java agricultural sector. According to Bank Indonesia, inflation below 2% is still under control. Previous study also showed that inflation had both positive and negative effects on the demand and supply of agricultural commodity products in the market (Ashari & Saptana, 2016).

Policy Recommendation

The results and analysis were used to provide several recommendations to improve and sustain the East Java agricultural sector which are stated as follows:

1) Adopt and collaborate in implementing the Indonesia Financial Literacy National Strategy (SLKI) 2021-2025 prepared by FSA in East Java. The guidebook identifies 'financial capability' as one of the strategic programs to strengthen Islamic financial literacy and educational strategies through the involvement of religious leaders. This condition is appropriate because East Java is supported by thousands of Islamic boarding schools, santri, and religious leaders.
2) The East Java Government can collaborate with the Islamic Boarding School Business Economics Association (Hebitren) to accelerate the business processes within the agricultural, fisheries, and forestry sectors. This can be achieved by integrating Islamic financial instruments into the value chain with a focus on both the upstream and downstream activities. By engaging Hebitren and universities with Islamic economics programs such as Airlangga University, UIN Sunan Ampel, Brawijaya University, Surabaya University, and others in East Java, the Government can design and implement programs focused on Islamic financial literacy and inclusion in the region.
3) An increase in the quantity of Islamic financing with appropriate profit-sharing patterns and adequate justice can improve the exchange rate received by farmers. This is because the contract scheme is tailored to the needs of agricultural, forestry, or farming sector actors, either partial such as the need for farming tools and equipment, or complete such as additional capital and investment.

5. Conclusion

5.1. Conclusion

In conclusion, the growth of GRDP in the agricultural sector of East Java was influenced by several factors, such as the FER, financing by Islamic commercial and people's banks, and inflation. The results showed that 1) the farmer's exchange rate was positively related to the GRDP and this indicated an increase in the price of agricultural products and farmer wages directly encouraged the growth of GRDP in the agricultural sector as observed in some leading districts such as Banyuwangi, Jember, Malang, Lamongan, and Sumenep. 2) The financing provided by Islamic commercial banks was positively related to the agricultural GRDP and this showed that the Islamic financing pattern from upstream to downstream was generally demanded by farmers. This was found to be a concrete step for the East Java government to develop and apply Islamic economics in Indonesia. Moreover, 3) the financing provided by BPRS had a positive relationship with the GRDP as indicated by the support of the high BPRS financing to the real growth of the sector. 4) Inflation was also positively related to the GRDP as confirmed by the increase in the GRDP of the agricultural sector due to the increment in the price of goods and services. However, the inflation rate in East Java was discovered to be relatively stable, with an average of less than 3% in the last 5 years

5.2. Limitation

Our research focuses on the factors that influence of agricultural sector in East Java, like farmer exchange rate, Commercial Bank Financing, Sharia People's Financing Bank Financing, and inflation, not to mention Village SDGs factors because of the limited data and sources.

5.3. Suggestion

We recommended the East Java government implement policies to ensure collaboration among the sector actors, implement an Indonesian financial literacy strategy, and downstream the agricultural sector with academics, institutions, and stakeholders to achieve sustainable growth.

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References

Adil, A., Sapar, S., Marhani, M., & Rosa, I. (2024). The influence of individual characteristics and work discipline on the performance of PT employees Bank Syariah Indonesia Palopo Branch. Journal of Multidisciplinary Academic and Practice Studies, 2(1), 1-8.

AAOIFI. (2017). Shari'ah Standards (Full Text of Sharia'ah Standards for Islamic Financial Institutions As at Safar 1439 A.H - November 2017 A.D). The Accounting and Auditing Organization for Islamic Financial.

Ashari, A., & Saptana, S. (2016). Prospek Pembiayaan Syariah untuk Sektor Pertanian. Forum Penelitian Agro Ekonomi, 23(2), 132. https://doi.org/10.21082/fae.v23n2.2005.132-147

Badan Pusat Statistik Jawa Timur. (2021). Produk Domestik Regional Bruto Provinsi Jawa timur Menurut Lapangan USaha 2016-2020. BPS Provinsi Jawa Timur.

Badan Pusat Statistik Jawa Timur. (2022). Provinsi Jawa Timur dalam Angka. BPS Provinsi Jawa Timur.

Bafadal, A. (2014). Pengaruh Kinerja Ekonomi Makro Terhadap Nilai Tukar Petani. QE Journal, 03(03), 162–178.

Bank Indonesia. (2022). Laporan Perekonomian Provinsi Jawa Timur Februari 2022.

Biyanto, B., Fadlan, F., & Prasetiasari, C. (2023). Management of plastic waste as industrial raw material in the perspective of protecting the environment the environment. Journal of Multidisciplinary Academic and Practice Studies, 1(2), 147-154.

Bora, Y., Fanggidae, R. E., & Fanggidae, A. H. (2023). Analysis of the role of online transportation on tourism development (A study of tourists on users of grab online transportation services in kupang city). Journal of Multidisciplinary Academic and Practice Studies, 1(1), 1-10.

BPS. (2022a). Konsep dan Metodologi Inflasi. Bps.Go.Id. https://www.bps.go.id/subject/3/inflasi.html#subjekViewTab2

BPS. (2022b). Pengertian Umum Nilai Tukar Petani. Bps.Go.Id. https://www.bps.go.id/subject/22/nilai-tukar-petani.html#subjekViewTab1

BPS Jawa Timur. (2021). Posisi Kredit Perbankan Menurut Jenis Bank dan Sektor Ekonomi di Provinsi Jawa Timur (juta rupiah), 2020. Https://Jatim.Bps.Go.Id/. https://jatim.bps.go.id/statictable/2021/09/07/2265/posisi-kredit-perbankan-menurut-jenis-bank-dan-sektor-ekonomi-di-provinsi-jawa-timur-juta-rupiah-2020.html

Handbook of Islamic Banking. (2007). In M. K. Hassan & M. K. Lewis (Eds.), Handbook of Islamic Banking. Edward Elgar Publishing, Inc. https://doi.org/10.4337/9781847205414.00010

Iqbal, Z., & Mirakhor, A. (2011). An Introduction to Islamic Finance: Theory and Practice. John Wiley & Sons (Asia) Pte. Ltd.

katadata.id. (2021). Sebanyak 323,3 Ribu Santri Bermukim di Jawa Timur, Terbanyak Nasional. Databoks.Katadata.Id. https://databoks.katadata.co.id/datapublish/2021/09/15/sebanyak-3233-ribu-santri-bermukim-di-jawa-timur-terbanyak-nasional

Kementerian Perencanaan Pembangunan Nasional. (2015). Kebijakan Lahan Pertanian Pangan Berkelanjutan (LP2B) (A. Muharam & D. Maghfirra, Eds.). Direktorat Pangan dan Pertanian Badan Perencanaan dan Pembangunan Nasional.

Kementerian Pertanian. (2015). Rencana Strategis Kementerian Pertanian Tahun 2015-2019. Kementerian Pertanian Republik Indonesia.

Kementerian Pertanian. (2020a). Rencana Strategis Kementerian Pertanian 2020-2024. Kementerian Pertanian Republik Indonesia.

Kementerian Pertanian. (2020b). Di Jatim, Pertanian Menjadi Sektor Paling Aman Dari Dampak Pandemi Corona. Https://Www.Pertanian.Go.Id/. https://www.pertanian.go.id/home/?show=news&act=view&id=4444

KNEKS. (2022). Anugerah Adinata Syariah 2022: Penghargaan kepada Kepala Daerah. Knks.Go.Id. https://knks.go.id/berita/448/anugerah-adinata-syariah-2022-penghargaan-kepada-kepala-daerah?category=1

Kominfo Jatim. (2022). Gubernur Khofifah : Sektor Pertanian Menjadi Tumpuan Utama dalam Pemulihan Ekonomi Akibat Pandemi Covid-19. Https://Kominfo.Jatimprov.Go.Id/. https://kominfo.jatimprov.go.id/read/umum/gubernur-khofifah-sektor-pertanian-menjadi-tumpuan-utama-dalam-pemulihan-ekonomi-akibat-pandemi-covid-19-

Majid, R. (2021). Designing Salam-Muzara'ah Linked Waqf to Financing Agricultural Sector. Journal of Islamic Monetary Economics and Finance, 7(3), 503–526.

Nurdin. (2016). Penggunaan Lahan Kering di DAS Limboto Provinsi Gorontalo untuk Pertanian Berkelanjutan. Jurnal Penelitian Dan Pengembangan Pertanian, 30(3), 98–107. https://doi.org/10.21082/jp3.v30n3.2011.p98-107

Obaidullah, M. (2015). Enhancing food security with Islamic microfinance: Insights from some recent experiments. Agricultural Finance Review, 75(2), 142–168. https://doi.org/10.1108/AFR-11-2014-0033

Otoritas Jasa Keuangan. (2021). Strategi Nasional Literasi Keuangan Indonesia (SNLKI) 2021 - 2025. Departemen Literasi dan Inklusi Keuangan Otoritas Jasa Keuangan.

Pathiraja, H., Karunarathne, A., Hewage, V., & Jayawardena, H. (2021). Revival of Sri Lankan Wildlife Tourism Operation in New Normal Conditions of Covid-19: Challenges and Readiness. Journal of Sustainable Tourism and Entrepreneurship, 3(2), 101-113.

Prakoso, A. A., Pradipto, E., Roychansyah, M. S., & Nugraha, B. S. (2020). Community-based tourism: concepts, opportunities and challenges. Journal of Sustainable Tourism and Entrepreneurship, 2(2), 95-107.

Suharto, M., Angkupi, P., Dacholfany, I., & Susminingsih, M. H. (2021). The Effect of Trust Commitments on Organization: Empirical Insights into Managerial Performance. Journal of Hunan University Natural Sciences, 48(12).

Supriadi, S., Suharto, S., & Sigalingging, M. (2022). ANALISIS PENGARUH LINGKUNGAN KERJA DAN KOMITMEN ORGANISASI TERHADAP KEPUASAN KERJA PEGAWAI DI KANTOR KEPALA KAMPUNG NEGERI KEPAYUNGAN KECAMATAN PUBIAN KABUPATEN LAMPUNG TENGAH. Derivatif: Jurnal Manajemen, 16(1), 110-119.

Svongoro, P., Chigora, F., & Katsande, C. (2023). An exploratory survey of localization and translation in Zimbabwe's agricultural and pharmaceutical industries in the Fourth Industrial Revolution (4IR). Journal of Multidisciplinary Academic and Practice Studies, 1(2), 165-177.

Syarif, A., & Riza, K. (2022). Pengaruh Kepemimpinan Transformasional, Disiplin Kerja dan Komunikasi Terhadap Kinerja Pegawai pada Dinas Pendidikan Kepulauan Riau. Jurnal Humaniora dan Ilmu Pendidikan, 2(1), 33-41.

Tarmizi, E. (2020). Haram Wealth in Contemporary Muamalah. PT Berkat Mulia Insani.

Tiimub, B. M., Christophé, N., Atepre, B. A., Tiimob, R. W., Tiimob, G. L., Tiimob, E. N., . . . Agyenta, J. J. (2023). Crop production potential of reclaimed mine sites for sustainable livelihoods. Journal of Multidisciplinary Academic and Practice Studies, 1(1), 83-97.

Usmani, M. M. T. (2012). An Introduction to Islamic Finance. Kluwer Law International.

Yusuf, A., Suganda, T., Hermanto, Mansur, F., & Hadisoemarto, P. (2020). Strategi ekonomi sektor pertanian di tengah pandemi Covid-19.