

# The Role of Agricultural Financing and Development on Sustainability: Evidence from ASEAN Countries

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The introduction of Sustainable Development Goals (SDGs) provides a blueprint for sustainable growth which has received widespread attention from policymakers, industry players and academics globally. The objective of this paper is to examine the role of agricultural finance, progress in agriculture and rural development on the sustainable development of ASEAN countries. The relevant data covering a period of 11 years (2009 to 2020) is sourced from World Development Indicators (WDI) and Global Sustainable Development Reports (GSDR). The results obtained from the traditional approach of Fixed-effect model (FEM) indicate that agricultural finance, agricultural progress, and rural development have a significant and positive impact on the sustainable development of ASEAN countries. More specifically, the findings indicate that agricultural finance, progress in agriculture and rural development drive sustainable growth. These findings have several implications, especially for policymakers responsible for regulating these sectors. For instance, the relevant regulatory authorities should devise policies that can provide good incentives for the agricultural, rural and sustainable development.

**Key words:** Agricultural finance, agricultural development, rural development, sustainable development, ASEAN countries.

## 1. INTRODUCTION

A key indicator to assess a country's standing against other countries is its level of economic development. Once a certain level of economic development is achieved, there is need for a strong mechanism to maintain it through sustainable development means. Sustainable development is a way of achieving development where growth is achieved without compromising the capacity of future generations to fulfil their own needs. In the words of [Silvestre et al. \(2019\)](#), sustainable economic development is a way of achieving economic development that fulfils the needs of all without leaving the upcoming generations with fewer natural resources than the resources we have today. Sustainability in the development of a country can be achieved when economic activities run smoothly without any hurdle or loss, and it is made possible when the commercial entities not only focus on profitability but also on environmental protection and social well-being of the public. High profitability meets the present requirement of high economic growth while the environmental protection and social well-being of the general people ensures the same economic growth in future as there is today ([Baloch et al., 2021](#); [Fatimah et al., 2020](#)).

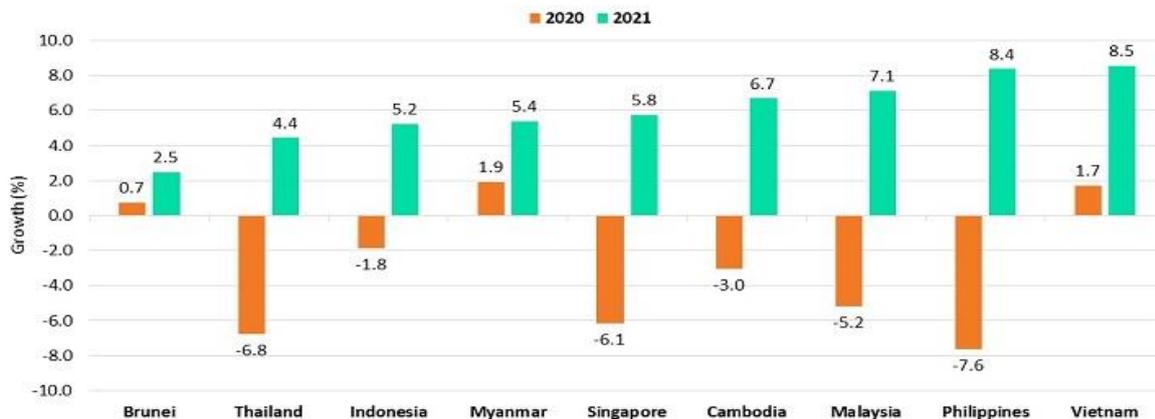
Sustainable development of a country is the consistency in the country's economic development which is possible only when there is a guarantee that the people of the country (who play the role of producers, suppliers, customers, and workers) will be healthy & energetic, and there are ample resources (raw material and technology etc.) to be used in generating the economic activities. For attaining this level of sustainability in the economic development of the country, agriculture and rural

development of a country play an important role as they not only make direct contribution to the gross domestic product but also protect the environment against pollution and preserve natural resources for the future generation so that they can perform functional activities without any hurdle ([Chien et al., 2021](#); [Di Marco et al., 2020](#)). For this reason, there is a need to check the role of agriculture and rural development in ensuring sustainable economic development of the country. The present study intends to solve this problem of determining agriculture and rural development's contribution to achieving sustainable economic development. The aim of this study is to determine the impact of agriculture financing, development in agriculture, and rural development on the level of sustainable economic development of a country. The study intends to explore the role of agricultural financing, progress in agriculture and rural development in achieving sustainable development for ASEAN economies. ASEAN economies are one of the fastest-growing economies in the world. In 2021, the expected gross domestic product (GDP) according to purchasing par parity is \$8.993 trillion, while nominal GDP is \$3.356 trillion. The economic growth rate is 4.6% in 2019, while it was 4.8% in 2020. The increasing level of GDP growth in ASEAN countries is illustrated in [Figure 1](#).

The ASEAN economies predominantly depend on three main sectors: agriculture, service, and the industrial sector ([Liu et al., 2017](#); [Shair et al., 2021](#)). Although the growth rate of ASEAN economies is high, the industrial sector releases 1.5 billion tons of CO<sub>2</sub> to the atmosphere every year, which makes ASEAN a larger source of greenhouse gas emission than Japan (1.3 billion tons per year) or Germany (796 million tons per year).



## Real GDP growth (%) forecast for 2021 in ASEAN economies



Source: GlobalData Business Fundamentals



Figure 1: Real GDP growth of ASEAN economies

The increasing amount of CO<sub>2</sub> emission into the air pose a serious threat to the economic growth of ASEAN countries if it is not controlled or regulated in the future. Several suitable steps are needed to control the level of CO<sub>2</sub> emission and increase the quality based natural resources and healthy labor force for economic use so that countries achieve sustainable development. As agriculture is the only economic sector that not only adds to GDP but can also protect the environment against greenhouse gases and preserve the natural resources to meet future needs, investment in this sector and its development can assure sustainable development for ASEAN economies. Similarly, a major portion of the population in ASEAN countries is based in rural areas, the rural community is a key source of natural sources. Therefore, rural development can ensure sustainable development (Samerwong et al., 2017). Thus, our study, which focuses on agriculture financing, development in agriculture, and rural development, is a guideline for ASEAN economies or similar countries to attain sustainable economic development.

This study investigates into the role of agriculture financing, developments in agriculture as well as the rural sector in achieving sustainable development growth. This study throws light on the essential aspects of agriculture financing, development in agriculture and the rural development while examining the sustainable mode of achieving economic growth. Even though the nexus between agriculture financing, development in the agriculture and the rural sector has been explored in existing literature, there is a need to report findings that elaborate on the impact of agriculture financing, developments in the agriculture sector, and rural development on the sustainable development of a country. Given the pandemic situation across the globe and its long-lasting impact on macroeconomic variables, especially the

employment rate, it is important to probe into this issue. Moreover, the extant literature is silent on the link between the focal variables and sustainable economic growth, and therefore it is imperative to find if there is a significant relationship amongst the variable's understudies. The closest and most relevant literature to this paper is the work of Verma et al. (2019). In their paper, they focus on agricultural development and demonstrate a need for exploration of rural economic development for getting sustainable economic growth in a country.

The second section is the literature review which explains the views of past authors on the association between agriculture financing, the development of agriculture, rural development, and sustainable economic development. The third section of the paper deal with the data and methodology, explaining how pertinent data is generated, collected, and analyzed. Furthermore, this section also provides a brief overview of the employed methodology. Moreover, in the fourth section, the results of the study are presented and discussed. It also provides implications of the current research. Finally, the study concludes with the conclusion section which also highlights the limitations of this research and the directions for future research.

## 2. LITERATURE REVIEW

To achieve higher economic growth rate and assume a position of significance in the global or the international market, a country needs to carefully devise policies that can not only steer the country's progress in the right direction but also ensure that this progress is achieved through sustainable means. In other words, a country needs to work on the best sustainable approaches to help bring the country to a higher level of growth. Sustainability in the economic development is only possible when the environmental quality is good enough to provide skilled and energetic labor-force for future activities and when

resources (raw material, energy resource, resources used in operations, technology, and tools) are enough to meet the future economic needs in addition to the present ones. The financing and development in different economic sectors and regions affect the sustainability component of economic development in a disproportionate way (Matinaro et al., 2019). The focus of this study is on the role of agriculture financing, the development of agriculture, and rural development in driving sustainable economic growth. Past authors have presented several views about the impacts of agriculture financing, the development of agriculture, and rural development on sustainable economic development, in several studies. Taking cue from the existing literature on the subject and the identified gaps therein, the objective of this paper is to explain the association between agriculture financing, the development of agriculture, and rural sector and the sustainable economic development.

In their recent work, Adegbite et al. (2020) describe the importance of agricultural finance in achieving the sustainable economic development of a country. They define agricultural finance as the provision of funds for operating or facilitating agriculture-related activities. Financial institutions like banks have the policy to provide funds to farmers on easy conditions and through an easy process, so that they can expand the scope of agriculture by acquiring land or building, purchasing technology or resources to facilitate the preparation of the land for production, and marketing of crops, plants, and livestock and related products. As a result of agricultural financing, even a little resource can be used to achieve several outcomes in a way that resources can be saved, natural resources can be increased, and the health of the workers and the environment can be protected. More precisely, agriculture financing can help individual economies to achieve several objectives with only limited input resources. All these activities are expected to boost the economic growth of a country. More importantly, it also enables the future generation to follow a similar path and remain on the sustainable growth path. A recent work of Paramati et al. (2018) examines the role of financial institutions like banks in developing the agriculture sector and consequently, achieving sustainable economic development in a country. In countries where the farmers have the facility of easy loans from financial institutions such as banks, they can utilize these funds for acquiring the latest machinery, tools, quality seeds, pesticides, fertilizers, and the adoption of modern techniques of sowing, watering, cultivating, and harvesting the crops, plants, or trees. Modern technologies and processes create agility and accuracy in agriculture activities such that the farmers can increase the productivity and hence some of these produces can be stored for future use. The consistent growth in the agriculture aided by the easy agriculture finance leads to sustainable economic development. Along the same lines, Antwi-Agyei et al. (2018) argues that when farmers have enough funds through ease mode

of agriculture financing, they are in a right position to pay heed towards the control of CO<sub>2</sub> emission in the air by motivating and incentivizing the rise in the renewable energy resources. For instance, easy access to agricultural financing will ultimately boost the plantation of more crops or trees and hence help in absorbing carbon dioxide from the air. Thus, the environment and nature can be protected, which not only meet the present needs of business organizations but also enable them to carry on business activities in future. Thus, agricultural financing leads to sustainable economic development. The study by Yamaguchi et al. (2017) also implies that in countries where financial institutions are willing to provide finance to farmers on low interest rates and easy conditions, there is more sustainable economic development as it ensures the availability of the consistent availability of good quality natural resources to be used and energetic human resources to be applied in economic activities.

Agricultural development refers to the provision of assistance to crop producers with the help of different agricultural resources. According to the study of Pan et al. (2021), which seeks to evaluate agricultural development as an indicator of sustainable economic development, argue that agricultural development is the process that creates necessary prerequisites for the accomplishment of full potential of agriculture sector. These conditions include the acquisition of exact knowledge, acquisition of technology and resources as well as the allocation of inputs and outputs. This study elaborates how improvements in the quality of technology and resources to be used in the preparation of land for cultivation, sowing seeds, watering the crops, harvesting, or growing livestock enhances the growth of production and their quality as well. The increased production provides resources to the manufacturing organizations for present use and assures the in-time availability of agriculture associated resources or raw materials for industries. Thus, it ensures sustainability in the economic development process.

More recently, Adegbite et al. (2020) investigate into the role of agriculture sector in bringing sustainability into the economic growth process of a country. As per their findings reported in the study, the willingness of the farmers or peasants to have knowledge about the change in the technology, techniques, and resources like fertilizers, seeds, or feed for livestock enables them to bring improvement in the speeds and quality of production of crops and livestock. It reduces the amount of waste and yields better production. The reduction in wastes and increased plantation protect the earth's climate and the quality of natural resources, which in turn, guarantees consistent economic development and sustainable position of the economy in the international market. Matthew et al. (2019) is of the view that the struggle of farmers to bring improvement in the preparation of land for cultivation, manure processing, and watering the crops or plants protects the environment as the plants can absorb the CO<sub>2</sub> emissions from the air. In countries where the environment

is clean, the economic activities are carried out smoothly in the presence of healthy livestock resources and healthy human resources who can actively perform their assigned functions. Thus, a high level of agricultural development leads to the sustainable economic development in a country. Similarly, the study by [Mugambiwa et al. \(2017\)](#) tests the impacts of agricultural development on the economic growth of the country. Their findings reveal that when farmers can import better technology or other resources for utilization in agriculture activities, the production of crops, livestock, and the related products remains high and the share of agriculture in the gross domestic product is also highly sustainable.

In the words of [Tomashuk \(2017\)](#), rural development is the way of improving the quality of life and the economic well-being of people living in rural areas, often relatively isolated and sparsely populated areas. Rural development comprises of many sorts of improvement and facilities in rural areas such as education, hospitals, social structure, gas or electricity access, information technology, communication network, transportation, development in the rural economy like agriculture, forestry, tourism, and rural industries. Any sort of rural development leads to high sustainable economic growth of the country. The scholarly work of [Scown et al. \(2020\)](#), explores the factors affecting sustainability in the country's economic development. Their findings suggest that the provision of gas and electricity access has made both the social & economic life of rural people easy. It is the availability of electricity and transportation which promote agriculture, tourism, and rural industries. This leads to an increase in the gross domestic product, and the stable performance of agriculture, tourism, and rural industries brings sustainability to the development of the country. In a developed rural area, education and medical facilities are available. According to the views of [Shapovalov et al. \(2019\)](#), the provision of education and the medical facilities to the rural population ensures the presence of a skilled, talented, competent, and healthy workforce that can carry out or perform the assigned economic activities in an efficient manner. The existence of such a proficient labor force proves to be an asset for business organizations and enables them to carry business activities smoothly and participate in the process of ensuring sustainability in the economic development process of a country. The study of [Hissa et al. \(2019\)](#) is conducted with an aim to explore the role of rural development in attaining sustainable economic development in a country. This study analyzes the four indicators of rural development such as rural transportation, electricity access, and communication network and education facilities. The study concludes that all four indicators like transportation, electricity access, communication network and the provision of education facilities contributes to the economic development of rural areas and thus, brings sustainability in the economic growth of a country. However, they further argue that

transportation, electricity access, communication network, and education facilities contribute to the economic development of a country in a disproportionate way. Along the same lines, the study of [Haider et al. \(2018\)](#) shows that the provision of banking facilities in rural areas improves the social life and the economic well-being of people living in the rural areas. The banks in rural areas provide funds to the people living there to help them carry out economic activities like agriculture, tourism, forestry, and the rural industry. The production of goods and services through these economic activities in rural areas contributes significantly to the gross domestic product and ensures sustainable economic development.

### 3. DATA AND METHODOLOGY

This research investigates into the impact of agricultural finance, agricultural and rural development on the sustainable development of ASEAN countries. This study has employed the post-financial crisis data from 2009 to 2020. The secondary data used in is study has been extracted and compiled from the World Development Indicators (WDI) and the Global Sustainable Development Report (GSDR) 2021. Based on the extant literature, this study has used the following equation to test the link between the focal variables. The hypothesis can be written down in an equation form as follows:

$$SDI_{it} = \alpha_0 + \beta_1 AF_{it} + \beta_2 AVAG_{it} + \beta_3 ARMI_{it} + \beta_4 RPG_{it} + \beta_5 EARA_{it} + e_{it} \quad (1)$$

Where;

SDI	=	Sustainable Development Index
i	=	Country
t	=	Time Period
AF	=	Agricultural Financing
AVA	=	Agricultural Value Added in Growth
ARMI	=	Agricultural Raw Material Import
RPG	=	Rural Population Growth
EARA	=	Electricity Access in Rural Areas

This research has adopted sustainable development as the predictive variable and measured it based on the Global Sustainable Development Index 2021. In addition, agricultural finance, agricultural development, and rural development have been taken as the independent variables. Agricultural finance has been measured as the ratio of agricultural loans to total loans. In contrast, agricultural development has been measured as the agricultural value-added (Annual % of growth) and agricultural raw material import (% of total merchandise import). Finally, rural development has been measured as the rural population

growth (annual %) and access to electricity rural (% of rural population). The information pertaining to the selected variables is provided in [Table 1](#).

**Table 1: Measurements of Variables**

S#	Variables	Measurements
01	Sustainable Development	Global Sustainable Development Index 2021
02	Agricultural Financing	Agricultural loans to total loans
03	Agricultural Value Added in Growth	Agricultural value added (Annual % of growth)
04	Agricultural Raw Material Import	Agricultural raw material import (% of total merchandise import)
05	Rural Population Growth	Rural population growth (annual %)
06	Electricity Access in Rural Areas	Access to electricity, rural (% of rural population)

The key descriptive statistics such as means, maximum and minimum values and the standard deviations are provided in Table 2. In addition, this study has also examined the correlation matrix to examine the nexus among the variables. The correlation matrix is provided in Table 3. Moreover, the present research has also investigated the variance inflation factor (VIF) to check the multicollinearity among the variables (refer to Table 4). The estimation equations for VIF are mentioned below:

$$R^2_Y \rightarrow Y_{it} = \alpha_0 + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e_{it} \tag{2}$$

$$j = R_Y^2, R_{X1}^2, R_{X2}^2, R_{X3}^2, R_{X4}^2, R_{X5}^2 \tag{3}$$

$$Tolerance = 1 - R_j^2 \quad VIF = \frac{1}{Tolerance} \tag{4}$$

This study also ran the Hausman test to check the appropriate estimation model to evaluate the link between the variables. The Hausman test is conducted to choose between the Fixed Effect Model (FEM) and the Random Effect Model (REM). The deciding factor between the two models is based on the probability values (p values). For instance, if the probability value is less than 0.05, this would imply that the REM is more appropriate and vice versa. As per the Hausman test, FEM has been selected for modelling the equation. The estimation equation for the FEM model can be written down as follows:

$$Y_{it} = \beta_{1i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + u_{it} \tag{5}$$

In the above equation, subscript (i) and (t) represents the sample country at time ‘t’. This study has established the FEM equation by using following model and the variables mentioned in Table 1:

$$SDI_{it} = \beta_{1i} + \beta_2 AF_{it} + \beta_3 AVAG_{it} + \beta_4 ARMI_{it} + \beta_5 RPG_{it} + \beta_6 EARA_{it} + u_{it} \tag{6}$$

Finally, this research has also used the robust standard error to correct the downward bias associated with the errors. Moreover, it also adjusts the model's heterogeneity issues that generally exist in a panel data-set. In addition, the present study has established the robust standard error equation with the help of below constructs mentioned as following:

$$SDI_{it} = \beta_1 AF_{it} + \beta_2 AVAG_{it} + \beta_3 ARMI_{it} + \beta_4 RPG_{it} + \beta_5 EARA_{it} + \epsilon_{it} \tag{7}$$

#### 4. FINDINGS AND DISCUSSIONS

The key descriptive statistics such as means, maximum and minimum values and the standard deviations are provided below. The below results show that the average value of SDI is 1.641 while the average value of AF is 0.569. In addition, the mean value of AVAG is 8.759, and the mean value of ARMI is 0.187. Finally, the RPG average value is 13.405, and EARA average value is 5.568. Table 2 shows these values given below:

**Table 2: Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
SDI	120	1.641	0.559	0.179	2.636
AF	120	0.569	0.158	0.545	0.627
AVAG	120	8.759	0.513	7.808	9.986
ARMI	120	0.187	0.247	0.012	0.799
RPG	120	13.405	20.885	4.38	65.89
EARA	120	5.568	0.410	4.099	6.399

As mentioned above, this study also examines the correlation matrix to examine the nexus amongst the employed variables. The results shown below indicate that all the

predictors such as AF, AVAG, ARMI, RPG and EARA are positively associated with the SDI. Table 3 below shows the correlation matrix.

**Table 3 Matrix of Correlations**

Variables	SDI	AF	AVAG	ARMI	RPG	EARA
SDI	1.000					
AF	0.418	1.000				
AVAG	0.409	-0.045	1.000			
ARMI	0.084	-0.005	-0.546	1.000		
RPG	0.659	0.214	-0.223	0.142	1.000	
EARA	0.118	-0.131	-0.143	-0.228	0.096	1.000

The present research also investigated the VIF to check the multicollinearity amongst the variables. The results presented below indicate that the VIF values are less than

five. These values imply that there are no issues of multicollinearity amongst the constructs. Table 4 below shows the VIF results.

**Table 4: Variance Inflation Factor**

	VIF	1/VIF
ARMI	1.674	0.597
AVAG	1.638	0.611
EARA	1.233	0.811
RPG	1.118	0.895
AF	1.087	0.920
Mean VIF	1.350	.

As mentioned above, this study also executes the Hausman test to check the appropriate estimation model in order to evaluate the link between the variables understudies. The

results presented below show that the P-value to be 0.372. Based on the rule of P-value of more than 0.05, FEM is selected to conduct the regression analysis. Table 5 shows the Hausman test results.

**Table 5: Hausman (1978) Specification Test**

	Coef.
Chi-square test value	5.376
P-value	0.372

Based on the Hausman test, FEM is selected to analyze the relationship amongst the variables. The results presented below indicate that agricultural finance, agricultural

development, and rural development have a significant and positive impact on the sustainable development of ASEAN countries. Table 6 below shows the FEM results.

**Table 6: Fixed Effect Model**

SDI	Beta	S.D.	t-value	p-value	L.L.	U.L.	Sig
AF	0.595	0.261	2.28	0.024	0.078	1.112	**
AVAG	0.509	0.124	4.10	0.000	0.755	1.263	***
ARMI	0.749	0.223	3.36	0.001	1.191	3.307	***
RPG	0.013	0.002	6.89	0.000	0.010	0.017	***
EARA	0.016	0.122	0.13	0.895	-0.226	0.259	
Constant	5.274	1.191	4.43	0.000	2.912	7.636	***
R-squared		0.378	Number of obs				120
F-test		12.782	Prob > F				0.000

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Finally, the robust standard error is also used to check the nexus amongst the variables and the results are like the one presented in Table 6. More precisely, agricultural finance, agricultural development, and rural development have a significant and positive impact on the sustainable development of ASEAN countries. Table 7 below shows the estimation result of robust standard errors:

The analysis results presented in this paper indicate that agricultural financing has a significant positive association with the sustainable development of a country. The study implies that as agriculture is a major economic sector, the source of raw material & energy resources for other economic sectors, and a way to maintain environmental quality, financing in agriculture can lead to the sustainable development of a country.

**Table 7: Robust Standard Error**

SDI	Beta	S.D.	t	P>t	L.L.	U.L.
AF	1.004	0.258	3.890	0.004	0.421	1.586
AVAG	0.420	0.052	8.070	0.000	0.538	1.302
ARMI	0.455	0.196	2.320	0.045	0.898	1.012
RPG	0.014	0.001	9.920	0.000	0.011	0.018
EARA	0.003	0.118	0.030	0.978	-0.264	0.271
_cons	4.018	1.088	3.690	0.005	1.557	6.479

These results are in line with the past study of [van Zanten et al. \(2021\)](#) who analyze the role of financial institutions in agricultural development and the overall sustainable development of a country. The study suggests that when financial institutions provide loans to farmers on easy conditions for agriculture, the quality of the environment, natural resources, and the health of living beings can be protected by controlling the amount of CO<sub>2</sub> emission into the air through the increased plantation, forestry, and production of renewable energy resources. Thus, agricultural financing not only assists the present generation in ensuring development but also enables future generations to achieve the same level of economic development by ensuring the availability of sufficient resources, a good working environment, and sound health. These results are also in line with the past study of [Thornton et al. \(2018\)](#). The authors study the impact of agriculture financing on the economic development of individual countries. The study shows that agriculture financing on easy conditions makes it possible to make an investment in forestry, plantation, crops, or livestock nourishment which are the main source of raw material, food, and energy resources. Thus, agriculture financing replenishes the natural resources and keeps them safe for future use and improves the sustainability level in the economic development of a country. These results are line with the previous study of [Stafford-Smith et al. \(2017\)](#). As per their findings, agriculture financing puts the agriculture sector on the innovation track by enabling the farmers to benefit from advanced agriculture techniques, advanced technology, seeds, and the fertilizers needed to plant forests, grow crops, and look after the livestock. The use of modern ways of plantation and livestock enable farmers to produce enough not only to meet the needs of the present generation but also prepares them to leave ample resources for future generations.

It has also been indicated by the results that agricultural development has a significant positive association with sustainable economic development. These results are also in line with the previous study of [Bastan et al. \(2018\)](#). The main aim of the work of [Bastan et al. \(2018\)](#) was to test the role of agriculture development in achieving sustainable economic growth. The acquisition and the application of latest resources, technology and techniques for the production, processing, and marketing of crops and livestock, assist in the production of crops, forests, and livestock. The increased trees, crops, livestock, and related products provide raw materials to all other economic

sectors which are operating their activities and ensure the availability of resources for future use. Thus, the improvement in the level of agriculture development leads to more sustainable economic development in a country. These results are also in line with the previous study of [Streimikis et al. \(2020\)](#), which suggests that improvement in the preparation of land, manure processing, the processes of crops production, and livestock nourishing enhances the plants and crops which can absorb the increased amount of polluting gases into the air and save the atmosphere for the upcoming generations. This will ensure that there are smooth economic activities in the presence of a healthy labor force and the quality resources.

Additionally, it has also been revealed by the results that rural development has a positive link with the sustainable development of a country. These results are further substantiated by the previous work of [Ashraf et al. \(2021\)](#). Their focus is on the factors contributing to the sustainable development of a country. This study concludes that rural development like the facility of electricity, construction of educational and medical institutions, banking facilities, and the transportation facilities in the rural areas of a country, accelerate the economic growth in more sustainable way. These results are also in line with the scholarly work of [Fernández Martínez et al. \(2020\)](#). They argue that an improvement in the social and the economic activities (agriculture, mining, and the tourism) of inhabitants of rural areas through the provision of gas and electricity access, banking, education, and transportation facilities, increases the number of natural resources, protects the environment from pollution, and contributes a significant share to the gross domestic product of a country. Hence, the rural development of a country determines the level of sustainability achieved within the economic development process of a country.

The study carries both theoretical and the empirical implications. From a theoretical point of view, the current study has great significance as the objectives of this study make a significant contribution to the existing literature on sustainable economic development. This study explores the role of agriculture financing, development in the agriculture sector, and rural development in the achievement of sustainable development of a country. This study investigates all the essential aspects of agriculture financing, development in the agriculture sector, and the progress in rural life while examining the level of sustainable development (social, environmental, and economic development) of a country. There are numerous

studies that have investigated the contributions of agriculture financing, development in the agriculture sector of the economy, and the rural development in the achievement of sustainable country development by enhancing or securing natural resources or progress opportunities for future generations. Nevertheless, the contributing role of agriculture finance, agriculture development and rural development has scarcely been used in the same research. For instance, [Laurett et al. \(2021\)](#) has discussed only agriculture financing and [Castro-Arce et al. \(2020\)](#), has explored only the aspect of rural development as ways to enhance the level of sustainability of economic development of a country. This research is a significant extension to the literature on sustainable development with the exploration of agriculture financing, development in agriculture, and rural growth as indicators of sustainable development of the country at the same time. The study has empirical implications as well. It is of great importance to the ASEAN economies or other emerging economies, as it provides a guideline to the economists and the government on how they can ensure sustainability in the country's development. The study suggests that sustainable economic development can be achieved when financial institutions provide large agriculture financing, ensuring that development is in the agriculture sector, and rural development becomes high.

## 5. CONCLUSION AND LIMITATIONS

The extant literature on sustainable economic development has a significant gap and hence there is an urgent need for specific research that fills that gap. For instance, there is a need of robust investigation aimed at assessing the factors required to achieve sustainable economic growth. The current study is conducted with an aim to gauge the impact of agriculture financing, development in the agriculture sector, and rural development on a country's sustainable development (social, environmental, and economic development) policies. The in-depth analysis of the environmental situation, social life, and economic growth of ASEAN countries is analyzed in this study. The study examines the policies of financial institutions regarding providing finance to the agriculture sector in particular the farmers who tend to acquire and utilize the agriculture loans, the development in the agriculture of the country, and development in the rural areas covering all possible aspects while analyzing the sustainable development of ASEAN countries. This in-depth analysis makes it possible for the author to extract findings of the nature of the relationship between agriculture financing, development in the agriculture sector, and rural development and the country's progress in terms of sustainable development. The findings indicate that enhanced agriculture financing improves the financial position of the farmers and enables them to promote agriculture (plants, forests, crops, and livestock) and keeps the environment safe from pollution, which provides an impetus for sustainable development in

a country.

The study also elaborates that a high level of agriculture development leads to a high level of sustainable development in a country. Through sustainable agriculture development, the number of natural resources and the quality of the natural environment can be maintained. Thus, the future population will be in the position to make the same progress as the current one is making. Moreover, the study findings also show that rural development in the form of increased social and economic facilities in rural areas leads to increased resources and opportunities for both, the present and future generations. Thus, increased rural development brings sustainable country's economic development.

Though the study carries both theoretical and empirical implications and has contributed to existing literature in several ways. However, the study still has several limitations. The current study has analyzed only three factors i.e., agriculture financing, development in the agriculture sector, and rural development to determine the level of sustainable development of the country and hence, additional factors can be included to assess the nexus in a more comprehensive manner. Moreover, although this study has given a detailed description of the role of agriculture financing, development in the agriculture sector, and rural development in the achievement of sustainable development, the significant indicators of sustainable economic development like monetary or fiscal policies, environmental regulations, and national or international trade have not been taken under consideration. Similarly, as the economies are based on three sectors like agriculture, industry, and service, and all the three sectors have an equal impact on sustainable economic development, this study has only investigated agricultural development while the importance of the other two remaining sectors has been downplayed. Thus, the scope of this study is limited by design and hence future research works should explore other important factors which can affect the sustainable economic development in a country. Moreover, the research is limited to ASEAN countries only. The economic union of ASEAN comprises of 10 countries only and hence the scope and level of generalizability of this study is limited. In other words, the validity of this study may not hold in other countries or regions and hence lacks generalizability. Therefore, future researchers are urged to investigate larger pool of countries so that the implications can be generalized for other country or regional contexts.

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