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RESEARCH ARTICLE

Examining the Factors Influencing the Level of Circular Economy Adoption in Agriculture: Insights from Vietnam

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Abstract: The development of a circular economy in agricultural production has become a trend for many countries, especially as global natural resources worldwide are increasingly depleting. Therefore, the economic model transition to address the challenge of balancing economic growth and environmental protection, in general, and the plan for agricultural production development, in particular, is highly necessary. In this study, the authors examine the factors influencing the level of circular economy application in agriculture in Vietnam. The research employs a survey method using questionnaires to collect data from individuals and households engaged in the agriculture sector in Vietnam. Out of the 500 distributed questionnaires, 421 valid responses were collected. The influencing factors will be measured using a Likert scale, and to assess their reliability, the authors used Cronbach's Alpha and inter-item correlation coefficients. To test the research hypotheses, the Structural Equation Modeling (SEM) method is utilized. The results reveal that among the factors included in the principal component analysis, financial factors have the strongest influence, followed by technological application, awareness, production scale, and finally, government policies. In summary, this study sheds light on the importance of various factors influencing the adoption of circular economy practices in agriculture. It can provide valuable information to policymakers, enabling them to make informed macro and micro-level decisions aimed at increasing the proportion of businesses applying circular economy principles in agricultural production.

Keywords: Circular economy; Income; Policies; Scientific and technical; Households

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1. Introduction

The rapid industrial revolution has posed significant challenges in the pursuit of sustainable economic development. These challenges include the depletion of natural resources, population growth pressures, climate change, and environmental pollution. Prioritize the utilization of organic agriculture diligently in panoramic policy solutions to exigency in climate change, biodiversity loss and food security, and relocate public grants to sustainable farming practices [1], it is also a solution to promote the development of the agricultural circular economy. Recent discussions have focused on enhancing the sustainability of the overall economic system and, specifically, the global agricultural economy. In recent years, research has emphasized supply chains and closed-loop business models intending to transition to a Circular Economy [2–5]. According to Bassi and Dias, a circular Economy is an economic system that balances production growth and environmental protection. It is designed to facilitate the reproduction of goods and services while regenerating environmental elements [6]. The foundational principles of Circular Economy revolve around the 3 Rs: Reduce, Reuse, and Recycle [7]. Circular agriculture aims to safeguard agroecosystem health, minimize waste, and optimize resource utilization while reducing energy consumption [8,9]. It emphasizes closing nutrient loops within agricultural systems, reducing reliance on external inputs like chemical fertilizers and imported feedstuffs [10]. This approach, proposed by scientists and policymakers, offers a promising solution to the challenges of finite resources and environmental degradation in global food production [10,11].

In Vietnam, Circular agriculture is a strong foundation for circular economy in agriculture, the term "Circular Agriculture" (CA) is relatively new, but the party's direction toward developing a Circular Economy, including in agriculture, has been in place for quite some time. This orientation towards developing CA has been reflected in various official documents spanning from 1998 to the present, such as Directive No. 36/CT-TW in 1998, Resolution No. 41-NQ/TW in 2004, Directive No. 29/CT-TW in 2009 issued by the Party Central Committee, and Resolution No. 24/NQ-TW in 2013 from the Central Executive Committee. The Party's policies on CA have been concretized through state legal documents like the Environmental Protection Strategy (EPS) and the Green Growth Strategy, as stipulated in Decree No. 38/2015/ND-CP. Notably, the concept of Circular Economy is mentioned in Article 142 of the Environmental Protection Law. A circular Economy is seen as an appropriate approach for developing agriculture with zero emissions, enhancing economic efficiency, and improving the environment within agriculture [2].

However, Circular Economy remains a relatively new concept, lacking a solid theoretical foundation and robust empirical evidence. For instance, some scholars argue that there is no precise definition of Circular Economy [4]. These limitations hinder the development of experimental research based on common Circular Economy theoretical frameworks. The reconciliation of global agricultural systems through closed-loop cycles that align with natural balance seems promising and reasonable. Yet, the current academic understanding of the Circular Economy remains vague and presents several challenges [4,12,13]. Despite the numerous contributions of the Circular Economy, it is still unclear what practical applications it brings.

In this study, we construct and validate a model of factors influencing the level of circular economy application in agriculture in Vietnam. The research model is built upon the Circular Economy theory [12,14,15]. The factors affecting the degree of circular economy application in the study include Government Policies, Production Scale, Business Awareness, Technology, Financial Investment and Circular Economy Application in Small and Medium Enterprises.

2. Literature Review

To facilitate the transition from a linear economy to a Circular Economy in agriculture, it is crucial to understand the drivers and barriers to Circular Economy implementation among farmers in Vietnam. Identifying factors that hinder or facilitate this transition is essential to establishing effective and successful business guidelines and new policy proposals to support the transition.

2.1 Government Policies

According to Shen and colleagues, governments play a crucial role in shaping and promoting Circular Economy behavior among citizens and businesses [15]. Many scholars also emphasize the essential role of government involvement and commitment in fostering a Circular Economy. Specifically, research indicates that governments can either prevent negative externalities [16,17] or enhance Circular Economy effectiveness [18–20]. Moreover, governments can set resource prices high, provide subsidies to reduce operational costs, or invest in Circular Economy-related technology development [21].

Therefore, the first research hypothesis is formulated as follows:

H1: Government policies have a positive correlation with the level of Circular Economy application in agriculture.

2.2 Production Scale

A comprehensive overview of research indicates that production scale influences the level of Circular Economy application. For instance, a survey conducted by Bassi and Dias among small and medium-sized enterprises in Europe found that enterprise size correlates with Circular Economy behaviors [22]. Bianchi and Noci argued that enterprise scale affects environmental protection strategies [23]. Hoogendoorn et al. suggested that smaller businesses have fewer incentives for environmental protection [24]. In other words, production scale is positively correlated with Circular Economy behavior. The authors provide explanations as follows: First, small businesses are resource-constrained, hindering their investment in environmentally and socially responsible activities [25–27]. Second, due to limited resources, small businesses' community-focused investments may not yield clear results [28]. This discourages the management teams of these businesses from engaging in Circular Economy behaviors. Third, since small businesses receive less attention from the media and the surrounding community, they face less pressure to participate in social and environmental activities [26,28]. Thus, the second research hypothesis is as follows:

H2: Production scale is positively correlated with the level of Circular Economy application in agriculture.

2.3 Awareness of Circular Economy

Agricultural businesses in Vietnam often have a unique style of farmers, which can include low education levels, small-scale farms, remote locations from cities, small capital and a culture of spontaneity. When building a business...it greatly affects the awareness of environmental impact factors when doing business and they almost do not pay attention to it even though they know. Studies have shown that one of the barriers to Circular Economy implementation is a company's awareness of environmental issues. Cherrafi et al. even argue that weak awareness and lack of government assistance are the main hindrances to green economic development [29]. In particular, most Southeast Asian countries face poverty and underdevelopment. Therefore, investments primarily focus on infrastructure rather than environmental concerns [30,31]. Consequently, we formulate the following hypothesis:

H3: Business awareness is positively correlated with the level of Circular Economy application in agriculture.

2.4 Technology

The development of science and technology benefits all aspects of economic and social life. Researchers have also recognized that the application of scientific and technological achievements promotes the Circular Economy. According to Onyeaka et al., artificial intelligence can boost the Circular Economy in agriculture by enhancing intercropping, and crop rotation, reducing chemical fertilizer abuse, and improving land use efficiency [32]. Internet of Things (IoT) technology can enhance resource, energy, and water management efficiency. Additionally, big data technology can promote the Circular Economy through the establishment of new production and business models, prolonging product lifecycles [33]. Thus, the fourth research hypothesis is as follows:

H4: Technology is positively correlated with the level of circular economy application in agriculture.

2.5 Financial Investment

Financial conditions play a crucial role in the circular economy implementation of businesses and households. Xie et al. indicated that financial conditions and access to financial resources are the most important factors in circular economy implementation [34]. Sharma et al. found that there are costs associated with businesses transitioning from current production models to circular economy. Businesses need to invest in information technology systems, change technologies, and train employees to support the new production model [35]. Moreover, businesses face the risk of maintaining current profit levels while uncertain about long-term profits [35,36]. Therefore, the fifth research hypothesis is as follows:

H5: Financial investment is positively correlated with the level of circular economy application in agriculture.

3. Data Description and Research Method

We employed a questionnaire survey method to collect data, and out of the 500 surveys distributed, 421 surveys were returned with acceptable quality. Gender distribution includes 53% male and 47% female respondents. The age distribution of respondents in the survey spans from 42 to 65 years old, with the highest frequency observed among individuals born between 45 and 55 years old (63%). The educational levels among respondents are 46 (11%) with university or higher education, 81 (19%) with vocational or technical education, 137 (33%) with high school education, and 157 (37%) with junior high school education or lower. The majority of respondents (93%) possess less than one hectare (ha) of land.

In the research model assessing the factors influencing Circular Economy implementation among farmers in Vietnam, the key factors considered include Government policies, Applied Scientific and Technological Innovation, Agricultural Production Scale, Business Awareness of Circular Economy, Circular Economy application in Small and Medium Enterprises, and Financial Investment in Circular Economy. These factors were measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The reliability of these scales was evaluated using Cronbach's Alpha coefficient and the correlation coefficient with the total variable. Reliability analysis (Cronbach's Alpha) allows the removal of inappropriate variables and the elimination of redundant variables in the research model. The minimum acceptable Cronbach's Alpha criterion was set at 0.6 [37] and variables with total correlation coefficients less than 0.3 were considered redundant and removed from the scale [38].

After eliminating unreliable variables and ensuring that observed variables had correlation coefficients between 0.3 and 0.8 and Cronbach's Alpha coefficients between 0.6 and 0.8, it was evident that the observed variables adequately reflected the concepts proposed in the study. Subsequently, these factors were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) to identify which factors act as facilitators or barriers. SEM analysis is a common method in Generalized Linear Modeling (GLM) for analyzing linear model data, allowing researchers to test proposed hypotheses. It examines the simultaneous impact of multiple factors on the dependent variable.

From the hypothesized model, a series of iterations with variable transformation indices were performed to provide researchers with a well-established model capable of explaining the maximum fit between the model and the collected real-world data. The overall model fit in the real-world context was assessed through fit criteria, including the following:

Statistical Significance Level

P-value ≤ 0.05 is considered indicative of a good model fit, reflecting statistically significant relationships among the factors influencing the transition to a Circular Economy (CE) [39,40]. This implies that hypotheses H1, H2, H3, H4, H5 and H6 are accepted, indicating that no better model was found than the current one.

For each relationship, there is a corresponding hypothesis. In social science studies, all proposed causal relationships typically have a confidence level of 95% (p = 0.05) [36]. To assess the model's explanatory power, the adjusted R-squared coefficient is used. After examination, if the results show that the hypotheses are not violated, it can be concluded that the regression coefficient estimates are unbiased, consistent, and efficient. Conclusions drawn from regression analysis are considered reliable.

Based on the results of the Exploratory Factor Analysis (EFA), the author included factors with Likert scales and quantitative factors in the Confirmatory Factor Analysis (CFA) model to analyze and confirm the relationships between independent and dependent variables, while also removing variables from the model if independent variables have no impact on the dependent variable.

4. Results

The primary objective of this study is to examine the factors influencing the level of Circular Economy (CE) implementation in agriculture in Vietnam. Vietnam is an agricultural country, there are many provinces with favorable conditions and suitable for research. We chose two provinces, Hanoi and Thai Binh, because they have the most unique features in the circular economy organizational structure. in agriculture. The study used a questionnaire survey method to collect data from individuals and households engaged in agricultural activities in two representative provinces in Vietnam: Hanoi and Thai Binh. Out of the 500 questionnaires distributed, 421 valid responses were collected, representing an 84.2% response rate. The survey sample structure information is described as follows (Table 1):

Table 1. Investigated pattern structure.

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Hà Nội	208	49.4	49.4	49.4
	Thái Bình	213	50.6	50.6	100.0
	Total	421	100.0	100.0	

4.1 Cronbach's Alpha Analysis Results

Cronbach's Alpha reliability analysis allows for the removal of inappropriate variables and the reduction of noise within the research model. In this study, variables with a correlation coefficient with a total variable less than 0.3 are eliminated, while measurement scales with Cronbach's Alpha coefficients greater than or equal to 0.6 are retained (Table 2).

After assessing the reliability of the measurement scales, all observational variables demonstrate reliability with a correlation coefficient between 0.3 and 0.8, and Cronbach's Alpha coefficients between 0.6 and 0.8. This confirms that the observed variables effectively reflect the concepts proposed in the study.

Table 2. Cronbach's alpha analysis results.

Observed variable	Total variable correlation	Cronbach's alpha if variable removed
Awareness of CE: Alpha = 0.864		
NT1: Our family has access to current and emerging circular economy information.	0.754	0.796
NT2: Our family has experienced circular economy issues.	0.754	0.797
NT3: Our family has an adequate understanding of the circular economy.	0.715	0.832
Technology: Alpha = 0.855		
CN1: Our family actively implements technology to optimize resource utilization in our agricultural practices.	0.754	0.771
CN2: Our family utilizes precision agriculture technologies to improve crop yields.	0.753	0.772
CN3: Our family employs simple irrigation systems to manage water usage effectively in our farming operations.	0.676	0.843
Financial investment: Alpha = 0.722		
TC1: I believe that investing in sustainable farming methods is a worthwhile financial endeavor.	0.607	0.558
TC2: I consider the long-term financial returns of circular agriculture practices.	0.597	0.563
TC3: I perceive circular agriculture as a financially viable and sustainable investment opportunity.	0.460	0.732
Production scale alpha = 0.891		
QMSX1: Our farm emphasizes regional markets and community connections.	0.805	0.830
QMSX2: We prioritize community engagement in our farm's production.	0.780	0.851
QMSX3: Our farm focuses on local markets and community involvement.	0.780	0.855
Government policies alpha = 0.885		
CS1: I am aware that regulations regarding circular economy in agricultural production are reflected in legal documents.	0.678	0.879
CS2: I feel that the government has many policies to encourage circular economy in agricultural production.	0.760	0.849
CS3: I know that the government has tax incentives to implement circular economy in agricultural production.	0.782	0.840
CS4: I am aware that banks offer loans to support circular economy in agricultural production.	0.782	0.840
CE adoption alpha = 0.932		
UDKTTH1: Our family have increased the use of green Materials.	0.811	0.918
UDKTTH2: Our family strives to minimize waste and pollution in our production processes.	0.778	0.924
UDKTTH3: Our family prioritizes the use of sustainable and renewable resources in our household operations.	0.812	0.918
UDKTTH4: Our family actively implements measures to reduce our environmental footprint in our daily routines.	0.937	0.896
UDKTTH5: Our family consistently looks for ways to improve resource efficiency and minimize waste generation in our household activities.	0.778	0.925

4.2 Exploratory Factor Analysis (EFA) Results

Following the reliability analysis of the measurement scales, all six groups of factors, including five independent variables and one dependent variable, meet the requirements for inclusion in the Exploratory Factor Analysis (EFA). The author employed the Principal Axis Factoring extraction method with Promax rotation in the EFA. Based on the observed variables that were assessed for reliability, the EFA results revealed the factors influencing the adoption of Circular Economy practices in agricultural households in Vietnam. The results of the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of Sphericity are presented in Table 3 below:

Table 3. KMO and Bartlett's test.

KMO and Bartlett's test
Extraction Method: Principal Axis Factoring
Rotation Method: Promax with Kaiser Normalization
KMO Score = 0.896
Bartlett's Test of Sphericity = 0.000
Total Variance Extracted: 67.152

From the KMO and Bartlett's test results, we observe:

The KMO value is 0.896 (0.5 ≤ KMO ≤ 1), indicating that the factor analysis is acceptable for the research data.

Bartlett's test of sphericity value is 0.000 (< 1%). This result implies that the variables are correlated within the population, and applying factor analysis is appropriate.

The EFA results reveal six factors with 21 observed variables: Government Policies (4 observed variables), Production Scale (3 observed variables), Business Perception (3 observed variables), Technology (3 observed variables), Financial Investment (3 observed variables), and CE Application (5 observed variables). All six-factor groups have Eigenvalues greater than 1, and the total variance explained by the main factor is 67.152% (greater than 50%). This indicates that the factors explain 67.152% of the data variation, confirming the suitability of the data for factor analysis.

Therefore, the measurement scales defined in the theoretical research model meet the standards, and no measurement scale components need to be removed. Consequently, the proposed factors in the model remain unchanged and retain conceptual integrity. The formal research model does not differ from the proposed model. Based on these results, we proceed with the Confirmatory Factor Analysis (CFA).

4.3 Confirmatory Factor Analysis (CFA) Results

From the results of the Exploratory Factor Analysis (EFA), the author includes factors with Likert scales and quantitative factors in the Confirmatory Factor Analysis (CFA) model to analyze and confirm the relationships between independent and dependent variables while eliminating variables from the model if independent variables have no influence on the dependent variable. It is essential to determine the appropriateness of the model's measurement conditions with the data to ensure the unidimensionality of the observed variable set [41,42]. To assess this suitability, this study employs various indicators: CMIN, CMIN/df, GFI, CFI, TLI, and RMSEA. In structural equation modeling, CMIN evaluates the disparity between observed and model-implied covariance matrices, while CMIN/df normalizes this statistic for better interpretation. GFI, CFI, and TLI are goodness-of-fit indices, with higher values indicating better fit relative to baseline or null models. RMSEA quantifies the discrepancy between the proposed model and observed data, with values below 0.05 suggesting a close fit. RMSEA with values below 0.08 indicates a significant model fit. These metrics collectively aid in assessing the adequacy of structural equation models.

Following the CFA analysis, the results are as follows (Table 4):

Table 4. Confirmatory Factor Analysis (CFA).

Index	Standard	Result	Evaluation
CMIN/df (Chi-square/degrees of freedom)	≤ 3	2.761	Good
GFI (Goodness of Fit Index)	> 0.85	0.917	Good
CFI (Comparative Fit Index)	≥ 0.9	0.969	Good
TLI (Tucker-Lewis Index)	≥ 0.9	0.962	Good
RMSEA (Root mean square error of approximation)	≤ 0.08	0.052	Acceptable

To assess the appropriateness of the factors within the model and confirm the discriminant validity of all considered research concepts, a constrained model was established. The results of the linear structural analysis indicate that the constrained model fits the survey data very well, with the following values meeting the required thresholds: CMIN = 276.106; df = 153; P = 0.000; CMIN/df = 1.805; GFI = 0.917; TLI = 0.962; CFI = 0.969, and RMSEA = 0.052 (Arbuckle and Wothke, 1999; Rupp and Segal, 1989; Cohen, 1988). The coefficients in the model demonstrate alignment with real-world data. The results presented in the Confirmatory Factor Analysis (CFA) model indicate that the correlation coefficients among observed variables are greater than 0.5, and the relationships between independent and dependent variables are all statistically significant at the 0.05 level. Consequently, it can be concluded that the factors influencing economic circulation in agricultural production are supported for inclusion in the Structural Equation Modeling (SEM) analysis.

The analysis results demonstrate that all factors significantly influence the application of economic circulation in agriculture. The results of the linear structural analysis show that the constrained model fits the survey data very well, with the following values meeting the required thresholds (CMIN = 276.106; df = 153; P = 0.000; CMIN/df = 1.805; GFI = 0.917; TLI = 0.962; CFI = 0.969; and RMSEA = 0.052). The coefficients in the model indicate alignment with real-world data. The results within the SEM analysis model show that all factors have a statistically significant impact (Table 5).

The results of the Structural Equation Modeling (SEM) analysis demonstrate the influence of factors on the adoption of circular economy practices in agriculture in the Red River Delta, explaining 79.4% of the model's variance. Among the factors included in the factor analysis, Financial factors exerted the strongest influence, followed by Technological application, Awareness, Production scale, and Government policies.

Financial factors are considered to have the most significant impact on the adoption of circular economy practices in agricultural production. With a standardized Beta coefficient of 0.519, this represents the highest value, indicating a strong relationship between financial factors and the adoption of circular economy practices in agriculture. The very low P-value (***), underscores the statistically significant influence on the model. This implies that factors related to finance, such as investment, financial management, or funding capabilities, have a substantial impact on either promoting or limiting the adoption of circular economy practices in the agricultural sector.

Table 5. Results of SEM analysis of factors influencing the application of economic circulation in agriculture.

			Unstandardized beta coefficient	Standardized beta coefficient	S.E.	C.R.	P	Model explanation
UDKTTH	<---	NT	0.147	0.159	0.051	2.895	0.004	
UDKTTH	<---	CS	0.120	0.138	0.047	2.573	0.010	
UDKTTH	<---	CN	0.159	0.155	0.062	2.547	0.011	79.4%
UDKTTH	<---	QMSX	0.143	0.163	0.047	3.054	0.002	
UDKTTH	<---	TC	0.353	0.519	0.047	7.472	***	

In the second position, Technology also has a significant influence on the adoption of Circular Economy practices in agriculture. With a standardized Beta coefficient of 0.155, it ranks second in terms of influence. The P-value of 0.011 also shows a statistically significant impact on the model, indicating that improvements in technology and the modernization of agricultural production and management processes can contribute positively to the development of the sector.

The third-ranked factor is Awareness, with a relatively substantial influence. The standardized Beta coefficient is 0.159, and the P-value is 0.004, both indicating a significant impact on the model. This suggests the importance of raising awareness among the general public and the community about the significance and benefits of circular economy practices in agriculture.

Production scale ranks fourth in terms of influence, with a standardized Beta coefficient of 0.163. It also has a relatively significant impact on the adoption of circular economy practices. The very low P-value of 0.002 indicates a statistically significant influence on the model. This suggests that the production scale, whether large or small, plays a role in the adoption of circular economy practices in agriculture.

Government policies, ranked last in terms of influence, do not necessarily imply that government policies are unimportant. It may simply indicate that, in this specific context, other factors such as finance, technology, and production scale contribute more to the adoption of circular economy practices in agriculture.

5. Discussion

This study proposes and validates a model of factors influencing the level of adoption of circular economy practices in agriculture in Vietnam. Our ideas and arguments are grounded in the theory of Circular Economy (CE) [17,19,20]. The research results indicate that the factors affecting the adoption of circular economy practices discussed in the study include Government policies, Production scale, Business Awareness, Technology, and Financial Investment.

The research findings suggest several implications. Firstly, financial conditions emerge as a critical factor for both businesses and households in transitioning from current production models to Circular Economy practices. To make this transition, enterprises and households require financial resources for investing in information technology systems, adopting new technologies, and providing training to their workforce [35]. Additionally, it's essential to consider the risks associated with potential reductions in current profits or ensuring long-term returns [35,36].

Secondly, the application of scientific and technological advancements can significantly drive Circular Economy practices in agriculture. Particularly, the development of the Fourth Industrial Revolution provides opportunities for agricultural producers to apply innovations such as artificial intelligence, the Internet of Things, or big data in their practices.

Thirdly, the level of Circular Economy adoption depends on the awareness of businesses and households. Raising awareness about social and environmental issues is a common concern in developing countries, as governments and citizens increasingly prioritize economic goals [31,32].

Fourthly, larger production scale enterprises and households tend to be more inclined to adopt Circular Economy practices. This aligns with findings from other studies such as Bassi and Dias and Hoogendoorn et al. [22,24]. Smaller enterprises may face limitations in resources and may have less influence on media and community attention [23].

Lastly, government policies play a crucial role in promoting Circular Economy behavior among citizens and businesses. This result supplements previous research, suggesting that governments can either mitigate negative externalities or enhance the efficiency of Circular Economy practices [21–25].

6. Conclusions

Several managerial implications can be drawn from these research findings:

Firstly, the government should enact supportive policies to assist citizens and businesses in transitioning from current production models to Circular Economy practices. Support can include financial grants and technical advisory services. Secondly, both the central government and local authorities should enhance awareness among citizens about the long-term benefits of Circular Economy practices, particularly in agriculture. Thirdly, promotional efforts and support for Circular Economy practices in agriculture can be concentrated on enterprises/households with larger production scales, as they are more likely to have the resources and motivation for adoption. Finally, investments in technology development and application in agriculture play a significant role in Circular Economy adoption. State budgets can facilitate technology development while reducing costs for businesses and households.

Author Contributions

The Kien Nguyen, Nguyen Thi Minh Khue, Quang Phu Tran: Conceptualization, Methodology, Resources; Nguyen Thi Quynh Anh, Le Khanh Cuong, Nguyen Chu Du: collect data, Software, Writing—original draft; Chu Viet Cuong, Vu Thi Thuong, Dang Hoang Anh, Nguyen Anh Vu: Formal analysis, Writing—review & editing.

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Data Availability

All data used in the study are available from the author upon request.

Conflicts of Interest

The authors declare no conflict of interest.

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