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Tourism with Energy Production and Consumption in the Red River Delta, Vietnam

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ABSTRACT

Tourism development is always the leading development orientation in Vietnam and many countries. Has tourism developed sustainably and how can tourism develop sustainably? In the development process, tourism consumes more energy due to various tourism activities such as hotel accommodation and transportation. How does energy production affect tourism growth? This question is asked of any country and economic region. This study investigates the long-term cointegration relationship between tourism growth and primary energy consumption. This study aims to examine the factors affecting tourism growth in the Red River Delta, Vietnam such as the energy production, gasoline consumption, tourism labor, tourism investment capital and gross domestic product. The study uses a model with secondary data of 11 provinces from 2010 to 2020. The experimental results demonstrate that the independent variables explain 51% of the variation of the dependent variable and the rest (49%) can be explained by other causes. Research results show that 2 factors, labor (L), investment capital (IN), have a positive impact on tourism growth. Energy production (EN) has a negative impact on tourism growth in the Red River Delta. From there, the author will propose possible solutions that can ensure labor, investment capital and rational use of energy for tourism development.

Keywords: Tourism Development, Energy Consumption, Investment Capital, Sustainable Development

JEL Classifications: Q56, Q57, R11

1. INTRODUCTION

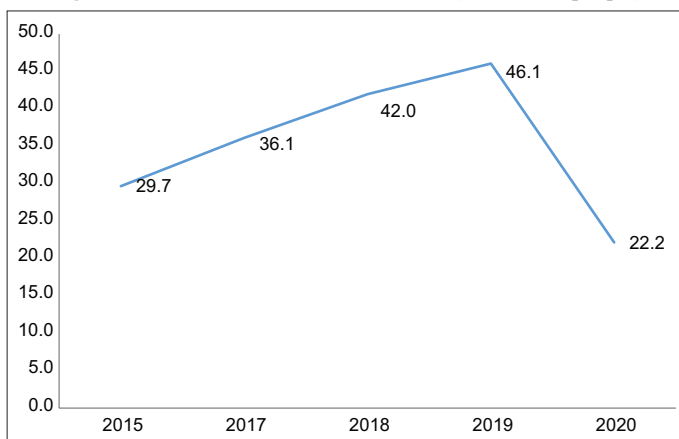
Tourism is the center of economic development in Vietnam. Before the covid-19 pandemic, Vietnam attracted over 18 million international visitors and served 85 million domestic visitors (Vietnam National Administration of Tourism, 2020). Currently, Vietnam has reopened to welcome international visitors and has welcomed 602 thousand international arrivals by the first half of 2022. Tourism not only promotes national economic development, but also contributes greatly to the local economy, Rukuižienė (2014). The Red River Delta is a large area located around the lower reaches of the Red River in northern Vietnam. The Red River Delta includes 11 provinces with diverse tourism potentials both natural tourism and spiritual tourism (religion). The Red River Delta has an area of 21,259.6 km², accounting for about 4.5% of

the total country area. The population of the Red River Delta is about 22 million people (in 2021), accounting for about 22.3% of the total country population. The area of agricultural land is about 760,000 ha, of which 100% is fertile alluvial soil with great value for agricultural production. The humid subtropical climate has hot and humid summers and cold and dry non-tropical winters, which results in a wide variety of crops. Climatic and hydrological resources are favorable for intensive farming and increasing crops in agricultural production. Winter weather is very suitable for cold-loving plants. Abundant water resources with great economic value are the Red River and Thai Binh River systems. There is also groundwater, hot water and mineral water. Marine resources are abundant with a coastline of 400 km. The sea area has great potential to develop many economic sectors (fishing and aquaculture, transportation and tourism).

The Red River Delta is an economic region that makes an important contribution to the overall development of Vietnam's economy. From 2015 to 2020, the average annual production and business capital, the value of fixed assets and long-term financial investment of enterprises, the net revenue of production and business of enterprises in the Red River Delta always accounts for from 31% to 35% of the whole country, (General Statistics Office of Vietnam, 2020).

Before the covid-19 pandemic, the Red River Delta welcomed about 46 million tourists (Figure 1). The number of international visitors to the Red River Delta accounts for nearly 10%, the rest are mainly domestic visitors. When the pandemic hit, Vietnam stopped accepting international tourists and started reopening in March 2022, so there should be a sharp drop in tourist arrivals in 2020.

Figure 1: Tourists to the Red River Delta (millions of people)



Source: General statistics office, 2020

Table 1: Energy production value in the Red River Delta

1 USD=23.000 VND		
Year	Production and distribution Value of electricity, gas, hot water, steam and air conditioning (billion VND)	Distribution value of petroleum and other fuels (billion VND)
2010	17.271.32	47.960.12
2011	22.720.89	67.658.52
2012	25.993.19	66.935.26
2013	30.126.59	71.685.49
2014	39.984.68	72.055.76
2015	24.593.82	73.278.37
2016	27.613.60	75.899.60
2017	29.228.45	82.911.75
2018	33.153.55	96.553.53
2019	38.436.01	121.830.37
2020	41.044.00	123.092.83

Source: General statistics office, 2020

Table 2: Residuals statistics

Item	Minimum	Maximum	Mean	SD	n
Predicted value	5.308040	9.435006	7.057846	0.9126429	121
Residual	-3.4971921	1.3108908	0E-7	0.9024462	121
Std. predicted value	-1.917	2.605	0.000	1.000	121
Std. residual	-3.826	1.434	0.000	0.987	121

Source: Regression results on SPSS: Statistical package for the social sciences

The 5-year tourism revenue growth (before the Covid19 pandemic) of the Red River Delta averaged over 10% per year, General Statistics Office (2020). Every year, tourism in the Red River Delta contributes to the region's economy on average 6-7% per year. In addition, tourism in the Red River Delta also creates many jobs for local workers and neighboring provinces, with an average annual increase of 5% (Vietnam National Administration of Tourism, 2020). The author's survey on job opportunities in the South Red River Delta showed that 73.3% of respondents said that job opportunities increased, 22.5% of them said that job opportunities remained unchanged. Only 1.0% of respondents find it harder to find a job. When developing tourism, the local people occupation has changed significantly, many families give up their traditional occupation (mainly agriculture). They switched to tourism services such as motels, restaurants and tour guides. For households with handicrafts, tourism creates more demand to develop production, especially unique products bearing the breath of local traditions. Recently, community-based tourism routes have begun to develop in the Red River Delta, which has also created more jobs for people. It is expected that in the coming time, community tours will continue to be invested and exploited, which will be a great opportunity to increase income for residents. Vietnam has reopened aviation and tourism, how to promote the potential and tourism advantages of the Red River Delta. After the pandemic, tourism requires new requirements so the Red River Delta faces strong competition from different domestic and foreign tourist destinations. Tourism development must be sustainable in order to help develop the economy, ensure social issues, preserve heritage, protect resources, protect the living environment and improve community benefits, Purnomo et al. (2019).

In parallel with tourism development, local economic development and energy consumption have a significant influence on economic growth, as it is the basis for modern industrial societies. The energy produced provides the means for home consumption, resource extraction, industrial production, and transportation, Moutinho et al. (2015). Table 1 shows that Energy production value and distribution value of petroleum and other fuels in the Red River Delta have significantly increased so far this now.

The impact of tourism on energy consumption and how energy consumption affects tourism growth in the country and region studied in Vietnam. But these studies are few.

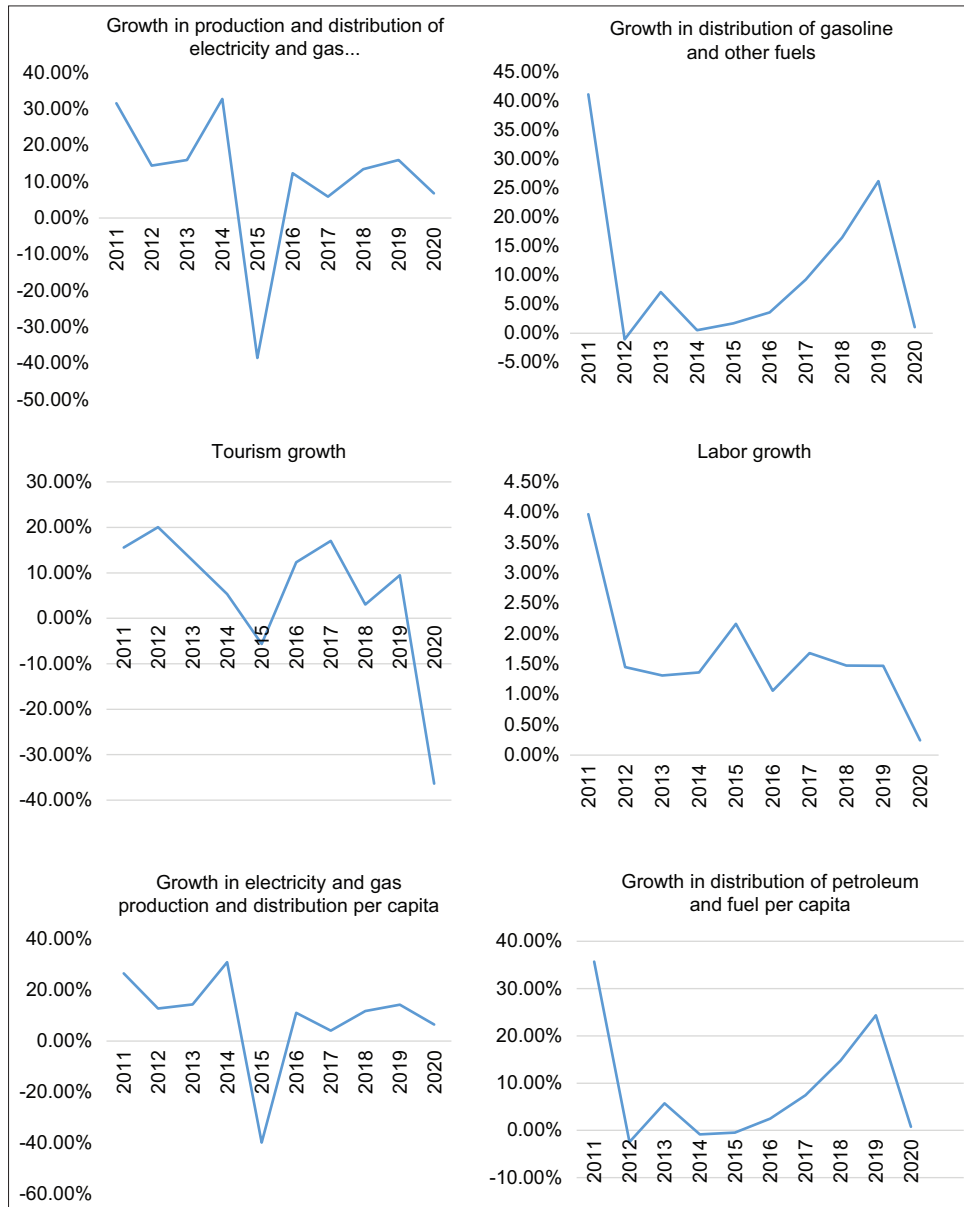
Energy consumption in the Red River Delta shows the trend of using electricity, gas. Increasing from nearly 900 thousand VND/person in 2010 to 1.8 million VND/person in 2020. Petroleum distribution increased from 2.4 million VND/person to 5.4 million VND/person (General Statistics Office and author's calculation).

Table 3: Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics	
					R square change	F change
1	0.711	0.506	0.493	0.9139428	0.506	39.886

Source: Regression results on SPSS: Statistical package for the social sciences

Figure 2: Trend lines for variables of interest



Source: General statistics office (2020) and author’s calculation

The tourism growth trend of the Red River Delta is continuous from 2010 to 2019, as seen in Figure 2.

2. LITERATURE REVIEW

Tourism contributes to the growth of the economy through foreign exchange and employment opportunities. However, tourism also contributes to a lot of energy consumption due to various tourism activities such as dining, accommodation and transportation. In addition to gross domestic product, total fixed capital, financial

development and total population affecting tourism, energy consumption also has a certain impact on tourism, Khanal et al. (2021). There is investigation into the long-term co-linkage between international tourist arrivals and primary energy consumption in Australia. The estimated results indicate that tourist arrivals, gross domestic product and financial development have a significant long-term co-relationship with energy consumption.

Tourism is considered to be labor intensive and its nature, multiplier and spillover are expected to be higher than in other sectors. Furthermore, tourism creates jobs of all levels, capacities

and is highly competitive. The spillover effects of tourism manifest in direct or indirect spending by tourists, which increases demand for local goods and services, Lopez and Arreola (2019). Therefore, the jobs in the tourism industry are also very diverse and spread evenly when serving tourists. In the same opinion, Habibi et al. (2018) points out that the tourism industry can become a long-term target of economic policy. Given the potential of tourism to create jobs and growth, policies are proposed such as: (1) Creating greater efficiency in terms of the scale of goods and services and according to customer requirements, (2) Sending signals to the market about the entry of new businesses and creating a positive impact on goods and services, (3) Competition and more consumer choices can improve the quality of life. Empirical studies by Sequeira et al. (2008) and Leitão et al. (2011) have evaluated the relationship between tourism demand and economic growth to Portugal. These studies indicate that tourist arrivals promote economic growth, which is also underpinned by Proença and Soukiazzi (2008). The empirical study of Ozturk et al. (2009) also examined the relationship between tourism and economic growth for Turkey and found no correlation. The link between tourist arrivals and economic growth in Spain and Italy was also analyzed by Cortes-Jimenez (2008), showing that tourist arrivals contribute greatly to economic growth.

Environmental pollution has become a global problem and is widespread in both developed and developing countries. Increased power consumption increases environmental pollution? Empirical research evidence in MENA countries, Muhamad (2019), in the US, Cai et al. (2018) suggests that environmental pollution tends to increase due to increased energy consumption. In ASEAN, such as Singapore, Malaysia, Thailand, Indonesia, Philippines and Vietnam, when energy consumption increases, there is a rapid and significant impact on environmental degradation, Van Chien Nguyen et al. (2020). In recent years, environmental pollution has become more and more urgent. How does energy production and consumption affect tourism growth?

The Turkish experience has been studied by Bozkurt et al. (2014), which demonstrates that environmental pollution (CO₂ emissions) has a negative relationship with economic growth. Tiwari (2011) also found a negative relationship between environmental pollution (CO₂ emissions) and economic growth. Gasoline consumption, carbon dioxide emissions and growth were investigated by Lim et al. (2014). Through the experience of the Philippines, the study shows a negative correlation between CO₂ and economic growth on a long scale in the period 1965-2012. The results presented by Ghosh et al. (2014) also show a negative correlation between CO₂ and economic growth for Bangladesh. Saidi's et al. (2014) empirical study examined the relationship between energy consumption, carbon dioxide emissions and economic growth. Research by Kais et al. (2015) also shows the negative impact of CO₂ on economic growth in Algeria and Tunisia. How do gasoline consumption, carbon dioxide emissions affect tourism growth? The presence of crude oil has been identified as an essential commodity that focuses on shifts in supply and demand. From there, market prices are predicted and identified as key factors that can affect the country's financial markets and the real economy, Huang et al., (2018). The continued rise and push in the price of

oil creates an impediment to financial returns and growth of some economic sectors, Ahmed and Mohammad (2021).

From the perspective of state management, energy consumption has a significant influence on economic growth, especially in industrialized countries. Energy is provided for household consumption, resource extraction, industrial production and transportation. Therefore, economic development and growth cannot be achieved without the use of more substantial energy, Pastén et al. (2015). However, there are serious environmental consequences to high energy consumption, Moutinho et al. (2015), including an increase in carbon concentrations (e.g., carbon dioxide emissions) in the atmosphere, leading to climate change climate change, Akhmat et al. (2014). Natural ecosystems that affect economic activity and human well-being are diminishing due to climate change. The significant environmental consequences of energy use have been increased concentrations of greenhouse gases in the atmosphere, such as CO₂.

The relationship between economic growth and tourism growth (tourists) is considered in many studies. Research results in Central and Eastern Europe show a positive relationship between tourist arrivals and economic growth, while CO₂ emissions were found to be negatively related to economic growth in the region, Attila Jambor et al. (2017). Svilokos et al. (2014) also examined the relationship between economic growth and tourism demand in Croatia, Nonthapot et al. (2016) empirical study examines the relationship between tourism and economic growth for Cambodia, Laos, Myanmar, Thailand and Vietnam by applying panel cointegration. Studies show that the variables of tourist numbers and per capita income are co-integrated, Panahi et al. (2015) shows that total fixed capital, human capital and tourist arrivals have a positive and significant impact on economic growth.

Paramati et al. (2018) investigated the impact of tourism investment on tourism development and CO₂ emissions in a group of 28 EU countries between 1990 and 2013. Long-run elasticity indicates that investment in tourism has both significant positive and negative effects on tourism development and CO₂ emissions. Research results show that investment in tourism not only increases tourism revenue but also reduces CO₂ emissions. From this finding, the authors suggest that EU countries come up with more effective policies to increase investment in tourism. As investment in tourism increases, the industry grows more which ensures sustainable tourism development across the EU member states. Tourism infrastructure development investing makes destinations and services more and more attractive, which is considered a key measure in developing a country's tourist destinations, Nguyen et al. (2020). To study the impact of investment in tourism infrastructure components on attracting international visitors, the author uses data from Vietnam for the period 1995-2019. The result shows that in the long run, investment in the components of tourism infrastructure such as transport infrastructure, telecommunications, hotels, restaurants and leisure facilities has an impact in attracting international visitors. In addition, in the short term, different impacts of tourism infrastructure components on the whole market and each major international visitor market are also found.

3. RESEARCH METHODS AND RESULTS

3.1. Data Collection

This study uses annual data from 2010 to 2020 for 11 provinces in the Red River Delta. The study uses panel data on Tourism revenue (VND billion), labor (VND billion), production and distribution value of electricity, gas, hot water, steam and air conditioning (VND billion), Total retail sales of petrol and other fuels (VND billion), Tourism investment capital (VND billion) and economic growth. Data are taken from World Development Index (WDI), General Statistics Office of Vietnam. In addition, the author also consults from other scientific research projects and topics.

3.2. Research Methods

Based on the survey of related documents as well as previous studies, we propose a research model as shown in Figure 3.

$$\ln REV = \beta_0 + \beta_1 \ln L + \beta_2 \ln EN + \beta_3 \ln IN + \beta_4 GRDP + \beta_5 \ln PE + \text{uit}$$

Research hypothesis:

- H₁: Energy consumption impacts tourism growth
- H₂: Consumption of gas, petroleum affects tourism growth
- H₃: Labor impacts tourism growth
- H₄: Investment capital affects tourism growth
- H₅: Gross regional domestic product impacts on tourism growth.

3.1.1. The model variable description

Tourism labor variable (L): Collected in the area (provinces), using the interval scale, unit: Person.

Energy production and consumption variable (EN): Collected in the area (provinces), using an interval scale, unit: Billion VND.

Investment capital for tourism variable (IN): Collected in the area (provinces), using the interval scale, unit: Billion VND.

Gross regional domestic product variable (GRDP): Collected in the area (provinces), using the interval scale, unit: Billion VND.

Production of gasoline and other fuels variable (PE), using the interval scale, unit: billion VND.

According to the results, Table 2 show that the residuals statistics is close to the zero, showing that the results are acceptable. In addition, it is important to note that the analysis could be well performed and showed the significant contribution on the tourism with energy production and consumption in the Red River Delta, Vietnam.

3.3. Hypothesis Testing and Discussion

The results were performed using SPSS software. Perform regression between the dependent variable and variables such as number of tourism workers (L), production and distribution of electricity, gas, hot water, steam and air conditioning (EN), tourism investment capital (IN), Gross Regional Product (GRDP) and Production of petroleum and other fuels Value (PE).

Figure 3: Proposed research model

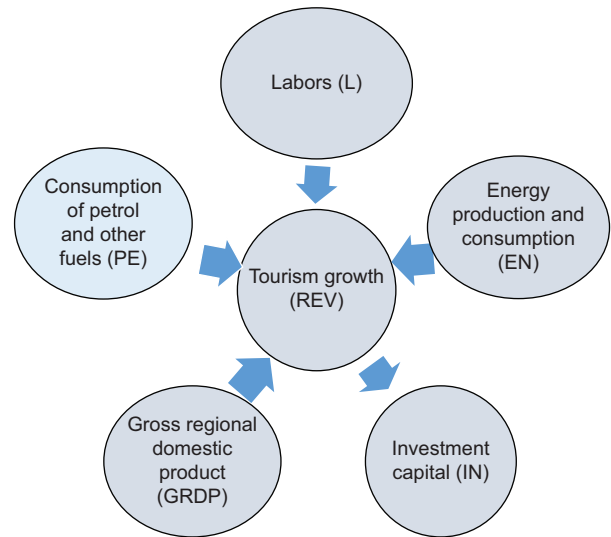
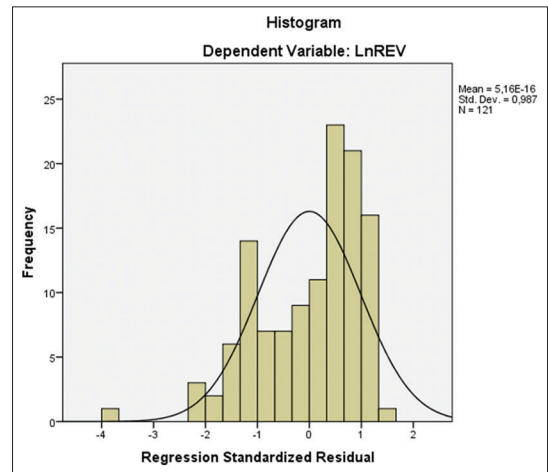
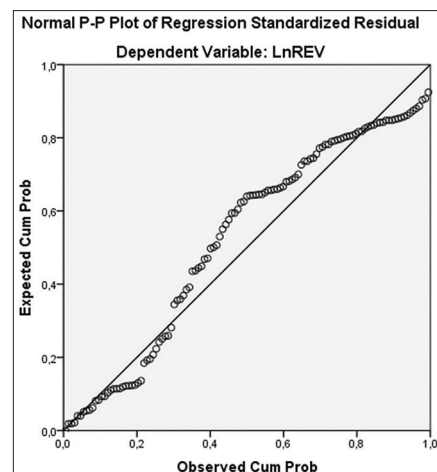


Figure 4: Percentage points



Source: Regression results on SPSS

Figure 5: Residual



Source: Regression results on SPSS

Therefore, regression model will be conducted with the following variables:

$$\ln(\text{REV}) = \beta_0 + \beta_1 \ln(L) + \beta_2 \ln(\text{EN}) + \beta_3 \ln(\text{IN}) + \text{uit}$$

Table 3 indicates that the adjusted R2 value of 0.506 shows that the independent variable included in the regression affects 50.6% of the change of the dependent variable, the remaining 49.4% is due to variables outside the model and random error.

The sig value of the F test was used to test the fit of the regression model. If sig is <0.05, we conclude that the multiple linear regression model fits the data set and can be used. This value is usually in the ANOVA table.

Table 4 shows that the sig test t regression coefficients of the independent variables are <0.05, so the independent variables (L, EN, IN) are significant to explain the dependent variable, no variable is excluded from the model. Sig test F is equal to 0.000 < 0.05, so the multiple linear regression model fits the data set and can be used.

Table 5 depicts that the VIF coefficients of the independent variables are all <3, so there is no multicollinearity.

Figure 4 shows that the mean Mean is 5.16E-16 approximately = 0, and the standard deviation Std. Dev = 0.987 is approximately = 1. This further confirms that the normalized residuals follow a normal distribution. Therefore, it can be concluded that: The assumption of the normal distribution of the residuals is not violated as shown in Figure 5.

The percentiles in the distribution of the residuals are concentrated on a diagonal, so the assumption of the normal distribution of the residuals is not violated.

Thus, with the 5 hypotheses from H1 to H5 we have set forth in section 3.2, there are three accepted hypotheses: H1, H2, H3, corresponding to the variables: Labor, investment capital, Production energy. Hypothesis H4, H5 is rejected, the variables of total product and petroleum production are not significant in the regression model.

Our final model is a log-log model, with both dependent and independent variable appearing as logs:

$$\ln \text{REV} = 0.876 \ln L + 0.10 \ln \text{IN} - 0.226 \ln \text{EN} + 0.848 + u$$

Table 6 shows that the regression coefficients have $\ln L, \ln \text{IN} > 0$, and $\ln \text{EN} < 0$. Thus, the independent variables L, IN included in the regression analysis all have a positive effect on the dependent variable, while the variable EN has a negative effect to the dependent variable. These groups of factors all have a positive impact on the tourism development of the Red River Delta. If the value of one or both of these factors is increased, the tourism development in the Red River Delta will increase. In other words, improving any of these factors will increase sustainable tourism development in the Red River Delta. Based on the size of the normalized regression coefficient Beta, the order of influence from the strongest to the weakest of the independent variables on the dependent variable is as follows:

Table 4: Model fit test

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	99.950	3	33.317	39.886	0.000 ^b
	Residual	97.729	117	0.835		
	Total	197.679	120			

Source: Regression results on SPSS: Statistical package for the social sciences

Table 5: Multicollinearity test

Model	95.0% confidence interval for B		Collinearity statistics	
	Lower bound	Upper bound	Tolerance	VIF
1 (Constant)	-0.386	2.083		
LnL	0.648	1.104	0.422	2.367
LnEN	-0.377	-0.075	0.487	2.053
LnIN	0.029	0.173	0.813	1.230

Source: Regression results on SPSS: Statistical package for the social sciences

Table 6: Results of multiple linear regression analysis

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. error	Beta		
1 (Constant)	0.848	0.623		1.361	0.176
LnL	0.876	0.115	0.761	7.613	0.000
LnEN	-0.226	0.076	-0.275	-2.957	0.004
LnIN	0.101	0.036	0.200	2.778	0.006

Source: Regression results on SPSS: Statistical package for the social sciences

This is interpreted as a 1% increase in L results in a 0.876% increase in REV. Therefore, for a 1% increase in L we would expect REV to rise by 0.876%. The variable of labor has a great impact on the growth of tourism in the Red River Delta, which is completely reasonable. In the Red River Delta provinces, the number of human resources involved in tourism has increased, including both direct and indirect labor in the locality and neighboring provinces. The policy of transforming tourism development has encouraged people to participate in tourism, which has improved the lives of local people and contributed to local economic growth (Statistical Office of the provinces, 2019). The provinces in the Red River Delta have local tourism development strategies, both promoting economic growth and creating jobs for local workers. They switch careers from agriculture to tourism can participate in many different forms. Local authorities also create conditions for them to be trained in tourism services. This result is also consistent with many studies on the tourism workforce. Well-trained, professional workers meet the requirements of tourists and contribute to visitors' satisfaction. From there, the tourist attraction strategy will be more and more effective. There are many indicators used to represent human resources for tourism of a locality. Research by Yang et al. (2011) uses the number of employees in the tourism industry as an independent variable in their model.

For IN-For each, 1% increase in IN, REV increases on average by 0.101%. This is consistent with previous studies by many authors, that capital investment has a significant impact on growth. However, at present, the majority of tourism investment capital

in the Red River Delta is domestic capital from the government, businesses and individuals. This result is similar to other studies. The OECD (2018) considers that private investment is needed to bring sustainable and spillover tourism growth to different economic sectors. Most private investment is made by domestic firms, but international investment can offer additional advantages (e.g. technology transfer, local supplier linkage and global market access). Countries are increasingly looking for foreign investors to invest the capital needed to develop tourism. Policies should consider how to attract international and domestic tourism investors and mobilize this investment in a sustainable way. Investment in sustainable tourism development requires financial contributions from the private sector. The nature of the privately funded investment dictates how tourism businesses operate. Dobrivojević et al. (2017) provide good conditions to invest in human resources, economic infrastructure, physical conditions, products and services and information technology for tourism.

For EN, an increase in EN by a percent leads to a decrease in REV of 0.226%. Production of energy such as electricity, gas, etc. has a negative impact on the growth of the tourism industry. This also reflects the policy of Vietnam in general and regions and localities in particular in promoting sustainable tourism development. One of the policies that the Red River Delta offers is to reduce the use of energy that is harmful to the environment, contributing to the sustainable development of the local economy. This result is also consistent with other studies. Using ARDL and Granger causality tests for a developing country, Nepal et al. (2019) conducted a study to explore the short-run and long-run relationship between tourist arrivals and average economic output per capita, emissions, energy consumption and capital formation in Nepal. Interestingly, they found a one-way causal relationship between primary energy consumption and tourist numbers, with an increase in energy consumption reducing tourist arrivals. This shows that energy consumption negatively affects tourist arrivals due to firewood consumption and reduced dependence on fossil fuels in Nepal in particular and developing countries in general. Similarly, no causal relationship was found between tourist arrivals and energy consumption in the European Union and the candidate countries, Dogan and Aslan (2017). Furthermore, in another study, Gamage et al. (2017) examined whether energy consumption and travel support the EKC hypothesis. Their investigation showed that tourism development is not a threat to environmental quality in Sri Lanka in the long run.

4. CONCLUSIONS AND RECOMMENDATIONS

Tourism development is a long-term development strategy and priority in the Red River Delta. Tourism development must have a focus. It is necessary to focus on places where it is possible to exploit and create specific and competitive products. These products make up the brand for tourism in the Red River Delta. In order to recover tourism after the covid-19 pandemic and towards sustainable tourism development, it is necessary to focus on attracting investment capital (domestic and foreign), attracting and developing tourism human resources. At the same

time, the Red River Delta needs to pay attention to limiting the production and consumption of energy that is harmful to the environment.

4.1. Firstly, Training and Developing High-quality Tourism Human Resources

The Red River Delta needs to expand and improve the quality of the tourism human resource training system. To step by step standardize training programs at tourism training institutions (to step up training and re-training of on-site human resources at training institutions, especially universities specializing in tourism, etc.). It is necessary to improve the qualifications of the teaching staff. Link training at schools with business needs. The Red River Delta should promote links with prestigious domestic and international research institutes and universities. Promote and support all economic sectors to invest in building university, college and intermediate training institutions specializing in tourism.

There is a plan to train and re-train existing tourism human resources in expertise, foreign languages, informatics and communication and behavioral skills in the direction of standardization. The Red River Delta needs to focus on small and medium enterprises, specific industries such as receptionists, rooms, kitchens, and narrators to improve the competitiveness of tourism businesses.

It is necessary to support from the budget a part of the funding for human resource development. It is necessary to socialize tourism human resource development to mobilize resources in society for human resource development. All economic sectors, especially enterprises, should be encouraged to actively train and improve the skills of tourism workers.

4.2. Secondly, the Red River Delta Should Focus Investment Capital on Tourism

Planning special tourist spots where there are unique and attractive products that other tourist attractions do not have. The conditions of facilities and support services are invested in accordance with the needs of tourists and in accordance with the operating management model.

The Red River Delta should develop a system of hotels and high-quality tourism services. Vietnam has integrated more and more deeply with the world, including tourism, so the standards of tourism and tourism services must also be in line with international standards. For tourist areas and destinations where the main products are eco-tourism, community-based tourism or nature-based tourism, it is necessary to focus on developing ecological accommodation systems and community accommodation systems (homestay). For tourist areas and destinations whose main products are eco-tourism, community-based tourism or nature-based tourism, it is necessary to focus on developing ecological accommodation systems and accommodation systems in the community (homestay). Combined with building a system of entertainment, sports and other auxiliary services. The Red River Delta should give priority to investment in the construction of entertainment, general sports, high-quality modern medical and healthcare facilities.

It is important to preserve historical and cultural values and maintain traditional festivals and craft villages. One of the purposes of tourists to the northern provinces is to visit and learn about the local culture, especially the Red River culture. They also study about Vietnamese villages associated with wet rice civilization, revolutionary traditions of people associated with relics and spiritual culture. Therefore, the investment in preserving and embellishing historical and cultural values, festivals and traditional craft villages in the provinces is meaningful in educating young generations about the historical and cultural values of the country. It is important to help the descendants remember the sacrifices and miracles of their ancestors in the wars to protect the country. And that creates an important foundation for tourism development.

Thirdly, Local authorities in The Red River Delta raise awareness of the importance of attracting FDI in the tourism sector.

It is necessary to have policies to encourage FDI investment in tourism such as policies for infrastructure development, tax, credit and human resource development. At the same time, it is necessary to improve the quality of synchronous and effective investment promotion. The tourism industry should give priority to foreign investors to invest in community-based tourism, eco-tourism and sustainable development. However, investment capital in the tourism sector in the Red River Delta is still largely domestic, with very little capital mobilized from abroad. The provinces in the Red River Delta need to strengthen links and actively seek funding from organizations, individuals and businesses inside and outside the province for the tourism industry.

Finally, sustainable energy development is the top concern of countries around the world. That ensures a long-term energy supply and minimizes the environmental impact of fossil fuels. The development of renewable energy is inevitable, but the problem of renewable energy is not only its dependence on natural conditions, but also that the increase in scale is not fast enough to reach low prices and requirements of the growing global economy. For Vietnam and the Red River Delta, developing renewable energy and increasing the proportion of renewable energy will be the main focus in developing clean energy, limiting environmental pollution, reducing the use of fossil energy and ensuring national energy security.

Development, energy and sustainability always go hand in hand and require a close combination. This amalgamation of government policy, local enforcement and citizen participation. Labor needs jobs, increased income and improved quality of life. Investors want to invest capital in items and projects with high profits. Energy production and use are consistent with local resources and usage needs. Tourism in the Red River Delta needs to combine factors of labor, investment and energy production to have an appropriate tourism development policy in the future.

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