



## Factors affecting sustainable development in Chau Duc district, Ba Ria Vung Tau province, Vietnam

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### Abstract

The research uses qualitative research methods through surveys of experts (leaders of the District Party Committee, Chairman, managers of departments under the People's Committee, and representatives of mass organizations: Secret Battle). hoe group, veterans' association, women's union, and youth union... Chau Duc district, Ba Ria-Vung Tau Province) to identify factors affecting sustainable development in Chau Duc district. Analyzing the results of a survey of 139 experts shows that economic development ( $\beta_1=0.240$ ), social development ( $\beta_2=0.182$ ), and environmental development ( $\beta_3=0.101$ ) are the most influential factors, followed by Natural conditions ( $\beta_5=0.084$ ) and policy mechanisms ( $\beta_4=0.065$ ) all have an impact on sustainable development in Chau Duc district. This article studies the current situation and factors affecting sustainable development, thereby proposing solutions for the socio-economic development of Chau Duc district, Ba Ria-Vung Tau Province, Viet Nam until 2030.

**Keywords:** Economic policy, Environment and development, Sustainable development, Public policy

### 1. Introduction

Ba Ria-Vung Tau (BR-VT) is located in the Southeast region - the region with the most dynamic economic development in the country. The locality has many advantages to developing the marine economy, exploitation - and processing. processing seafood, and minerals, developing coastal industry, seaports, tourism, and culinary culture... However, BR-VT is also steadfast in its strategy of sustainable marine economic development, setting out 08 tasks for sustainable development, including 1) Environmental protection, conservation, and sustainable development of marine biodiversity; 2) Actively respond to climate change, rising sea levels and prevent and combat natural disasters; 3) Disseminate, educate on laws, propagate information about sea and islands, focus on completing planning and plans related to sea and islands; 4) Mobilize resources and encourage economic sectors to invest in sustainable marine development; 5) Ensuring national defense and security and expanding international cooperation; 6) Developing marine, coastal and urban infrastructure; 7) Cultural and social development in island and coastal areas; 8) Developing marine economic sectors based on green growth (Dinh Huyen, 2023).

Chau Duc is a district with potential for socio-economic development of the Southern key economic region and of BR-VT province, with an average economic growth rate of 20.22% in the period 2011 - 2015, and in the period 2016 - 2020 20.33%, the plan for the 2020 - 2030 period strives to reach about 20%; The economic structure is shifting according to the trend of gradually shifting from agricultural and rural areas to industries and services towards a sustainable development strategy (Phuong Hau, 2022) <sup>[16]</sup>.

After only 10 years of starting to build this movement, from a difficult land, this place has become an economic, cultural, and social bright spot in BR-VT province and the Southeast region. However, the Secretary of the Chau Duc District Party Committee Nguyen Van Viet said that the district still has certain limitations. That is, agricultural production development is not very sustainable; High-tech agriculture and organic agriculture have not developed strongly; Building and developing brands, and solving output for the district's strong agricultural products is still limited.

People's income has increased in recent times, however, there are a few households whose income is not stable and sustainable... (Pham Duc Trong, 2022) [14].

From researching the theoretical and practical basis of sustainable development, the article focuses on researching factors affecting sustainable development, combined with the results of research on the current situation, the author proposes solutions for sustainable development. sustainable development in Chau Duc district, BR-VT province, Viet Nam until 2030.

**2. Theoretical basis and general research**

**2.1. Theoretical basis**

*Sustainable Development*, According to IUCN (1980), the International Union for Conservation of Nature and Natural Resources (IUCN) believes that "sustainable development is achieving sustainable development by protecting biological resources"; According to WCED (1987), the World Commission on Environment and Development - United Nations (WCED), defines "sustainable development as development that meets the needs of the present without compromising the ability capacity to meet the needs of future generations".

According to Phan Van Khai (2002) [15], in principle, sustainable development is the process of simultaneously operating three aspects of development: sustainable economic growth, prosperous, equitable, stable society, and multicultural The environment is clean and resources are maintained sustainably. Therefore, the complete system of ethical principles for sustainable development includes the principles of sustainable development in all "three legs" of economy, society, and environment. Up to now, the concept of sustainable development on the international level has had a common consensus and the goal of implementing sustainable development has become the millennium goal... Maho Mina d's Ercole (2008) [8], said that "Sustainable development is a transformation model that optimizes current economic and social benefits without harming the potential for future benefits. in the future". This concept mainly emphasizes the aspect of effective use of natural resources and ensuring a living environment for people during the development process.

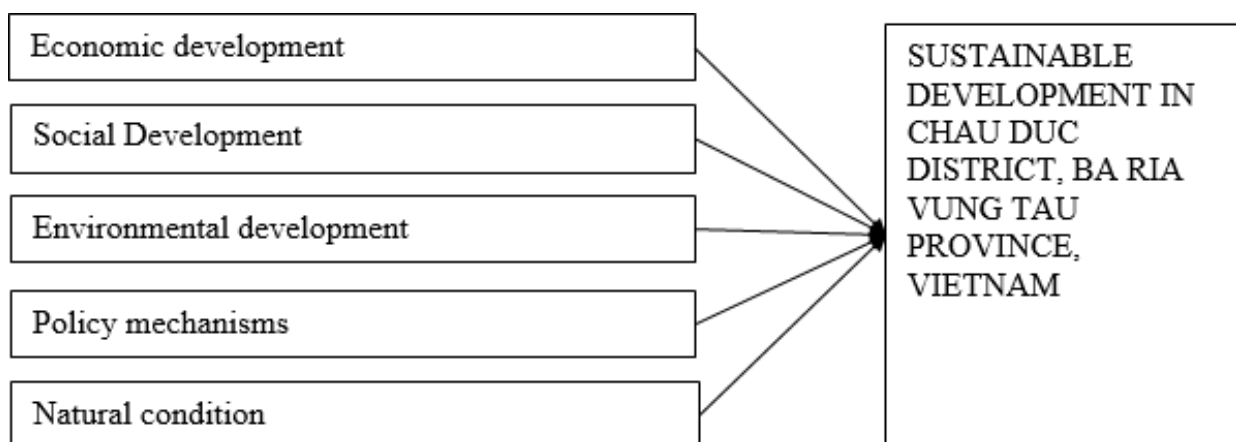
According to Debra Lam (2014) [5], the connotation of sustainable development was reaffirmed at the Earth Summit on Environment and Development held in Rio de Janeiro

(Brazil) in 1992 and supplemented and completed in the World Summit on Sustainable Development held in Johannesburg (Republic of South Africa) in 2002: "Sustainable development" is a development process with a close, reasonable and harmonious combination of three aspects. of development, including economic development (especially economic growth), social development (especially realizing progress and social justice; hunger eradication and poverty reduction and job creation) and protection environment (especially treating and overcoming pollution, restoring and improving environmental quality; preventing fires and deforestation; rational exploitation and economical use of natural resources).

*Factors affecting sustainable development*, According to the World Summit on Sustainable Development (2002), "Sustainable development is a development process with a close, reasonable and harmonious combination of three aspects of development, including: economic development (especially economic growth), social development (especially progress, social justice; hunger eradication, poverty reduction and job creation) and environmental protection (especially treatment and remediation). Pollution, restoring and improving the environment; preventing fires and deforestation; rational exploitation, and economical use of natural resources).

Prime Minister (2012), Indicators for monitoring and evaluating Vietnam's sustainable development in the period 2011-2020 include comprehensive indicators (green GDP, human development index, environmental sustainability index ); Economic indicators (effective use of investment capital, social labor productivity, reduction in energy consumption to produce a unit of GDP, consumer price index, current balance...); Social indicators (poverty rate, unemployment rate, rate of trained workers in the economy, sex ratio at birth, inequality coefficient in income distribution.); Natural resources and environmental indicators (forest cover rate, protected land rate, degraded land area...).

*Research model*, From the results of theoretical research, the author conducted interviews with experts and proposed a model to research factors affecting sustainable development in Chau Duc district, BR province. -VT. The model includes 05 basic groups of factors: 1) Economic development, 2) Social development, 3) Environmental development, 4) Policy mechanism, and 5) Natural conditions (Figure 1).



**Fig 1:** Research model of factors affecting sustainable development in Chau Duc district, BR-VT province, Viet Nam

*Research hypothesis*, From the results of expert surveys and general research, the author identifies factors affecting sustainable development, including H1- Economic development with 04 scales: Growth rate economic growth, economic restructuring, investment capital, and labor productivity; H2- Social development with 04 scales: Income development, Hunger eradication and poverty reduction, Education development, Health development; H3- Environmental development with 04 scales: Percentage of communes with wastewater systems, Percentage of communes with garbage collection systems, Percentage of forests on agricultural and forestry land area, using clean energy; H4- Policy mechanism with 04 scales: Economic development policy, Social development policy, Environmental protection mechanism, Sustainable development strategy; H5- Natural conditions include 04 scales: Natural conditions, Geographic location, Infrastructure, Transportation and irrigation.

## 2.2. General study of the topic

### 2.2.1. Current status of sustainable development indicators in Chau Duc, BR-VT province

*Economic development situation*, Summarizing the first 6 months of 2023, economic development targets have been achieved quite well compared to the plan: agricultural production value is estimated at 1,560 billion VND, an increase of more than 4% over the same period; Industrial and handicraft production value is estimated at more than 2,300 billion VND, up nearly 2.3% over the same period; trade - service revenue is nearly 4,500 billion VND, an increase of more than 4.6% over the same period; Budget revenue was more than 334 billion VND, reaching more than 57% of the estimate and increasing more than 16% over the same period; Gradually shifting labor structure from agricultural and rural areas to industrial and service sectors; increase the rate of trained workers to 45% by 2015 and over 70% by 2030...However, economic restructuring has been slowing down in the last 3 years due to the COVID-19 epidemic, a strategy is needed to overcome it. difficulties, to help Chau Duc create a breakthrough in economic development which is the foundation for sustainable development... (Truc Giang, 2023) <sup>[18]</sup>.

*Social development*, Chau Duc district's population in 2022 is about 153,168 people, forecast to be about 210,000 people by 2030, of which about 22-25% of the urban population and 75-78% of the rural population. GDP per capita by 2015 is about 26.2 million VND (at 1994 constant prices: 14.6 million VND) and by 2020 54.9 million VND (at 1994 constant prices: 31.1 million VND/Person). By 2022, people's income will reach more than 70 million VND/person/year. Strive to have no poor households according to national standards by 2030. Gradually develop a healthy, stable society, ensure jobs for workers, and ensure a natural population growth rate of about 0.9%; Develop culture, sports, education, and health, improve living standards of cultural enjoyment, ensuring community health... (Phuong Hau, 2023) <sup>[16]</sup>.

*Environmental development situation*, based on existing residential areas in 2020, aiming to meet the needs of wastewater systems and waste collection (especially for residential households with backlogs and self-expansion) increase in the period 2010-2020 from 35% to at least 75%-85% in the period 2030. Overcoming the semi-arid situation that will continue to increase due to climate change and lack of water sources for production and living and groundwater pollution is increasing, affecting people's lives and socio-economic development; Chau Duc has very poor forest resources. In 2020, the total available forest area is 570.62 hectares; Of which, natural forests are 48.53 hectares and planted forests are 522.09 hectares. Therefore, the district strives to increase the forest area by 41.5 hectares by 2030 (accounting for 82.6% of agricultural and forestry land area); At the same time, encourages the use of clean energy, such as wind power, solar power... (Quang Vu, 2023) <sup>[17]</sup>.

*Policy mechanism for sustainable development*, (People's Committee of BR-VT province, 2021), issued Decision No. 599/QD-UBND on approving the Action Plan to implement Vietnam's sustainable development goals South to 2030 in BR-VT province, with the 17 goals mentioned above and guidance on monitoring and evaluating the implementation of sustainable development goals, Chau Duc district strives for the goal of socio-economic development in the next phase. In the period 2021-2025, the average economic growth is 6.37 %/year, with agriculture and fisheries increasing 5.03%/year, industry increasing 8.63%/year and tourism services increasing 7.1% %/year and also goals for social development and environmental development based on natural conditions and development policies... (BR-VT Provincial People's Committee, 2018). However, the plan does not link these goals with sustainable development orientation.

*Natural conditions for sustainable development*, Chau Duc is a district located in the northwest of BR-VT province, with a natural land area of 42,456.61 hectares, equal to 21.34% of the area of BR-VT province. The population is 351 people/km<sup>2</sup>. As a district to build new rural areas and meet new rural standards by 2022, Chau Duc district is a purely agricultural, remote, and poor district of BR-VT province. After more than 10 years of building new rural areas, Chau Duc district has had 15/15 communes recognized by the Provincial People's Committee as meeting new rural standards, reaching a rate of 100%, among them, 7 communes have met upgraded new rural standards. high, the plan until 2030 is to continue to improve the infrastructure system, increase population density, build and complete existing concentrated residential areas according to new rural construction standards; meeting the needs of economic development, culture, and social stability of the district... However, it is necessary to effectively exploit natural conditions, and geographical location, and invest more to develop infrastructure, transportation, and irrigation... for socio-economic development towards sustainable development (Tru Giang, 2023).

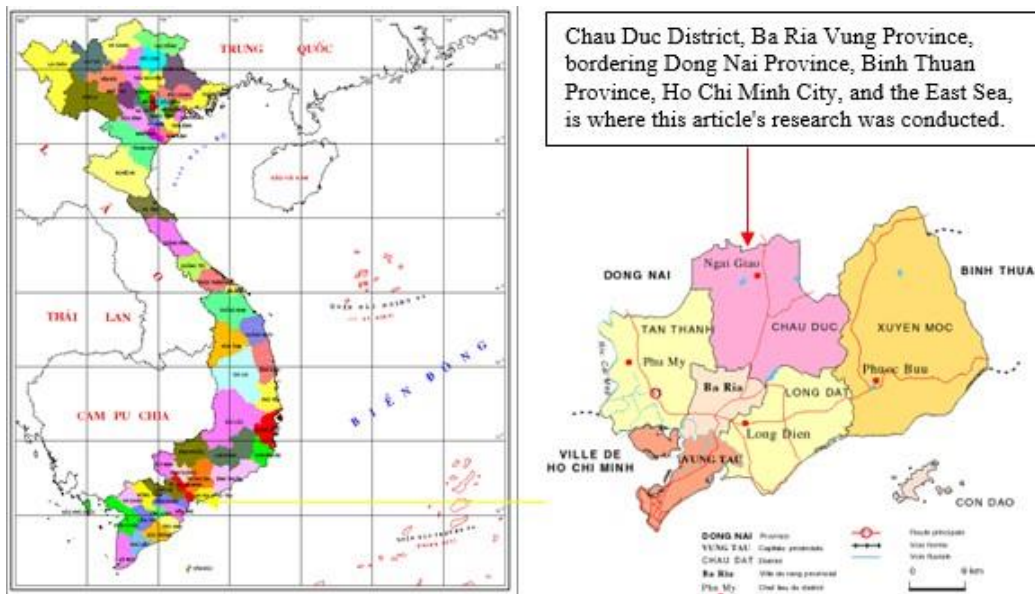


Fig 1: Location map of Chau Duc district

### 2.2.2. Factors affecting sustainable development in Chau Duc district, BR-VT province

According to Solow (1956); Nordhaus, (1974), factors affecting economic development: are 1) Growth rate, 2) Economic restructuring, and 3) Investment capital; And Palgrave Macmillan (2010) [9], said that factors affecting social development are: education, health, income, and human development index;

According to Evan DG. Fraser and et.al. (2006) [6]; Angel Hsu and Alisa Zomer (2015) [1], environmental development factors are influenced by: Ensuring the purity of air, water, soil, geographical space, and landscape;

Regarding sustainable development, Christian Brodhag, and Sophie Talière (2006) [4], believe that there is a need for policy mechanisms to synchronize economic, social, and environmental development with sustainable development; Ioan, Daniel, and Zamfir (2009) [7], argue that the natural environment has an impact on sustainable development, including: geographical location, transportation infrastructure...

### 3. Research methods

*Information collection methods include*, Secondary data, which are relevant studies and reports of ministries, departments, branches, branches of Chau Duc district, BR-VT... Primary data, compiled from the results of a community survey of 109 experts (leaders of the District Party Committee, Chairman, managers of departments under the People's Committee, and representatives of mass organizations and communities: Hoe Hoe Secretariat, Veterans Association, Support Association women and youth union...) Chau Duc district, BR-VT. To ensure the effectiveness, focus, and accuracy of the research results, the sample was selected directly based on the results of a survey of experts knowledgeable and related to sustainable development.

*Research approach*, systematic, institutional, policy approach, and rapid assessment with the participation of the RRA and PRA community are used throughout the research process.

### Research Methods

- *Qualitative research*, Collect data, and related research projects, develop a preliminary questionnaire, and interview 10 leaders, representatives of relevant organizations, and experts, to determine research targets current situation, and factors affecting sustainable development. The results serve as the basis for building an official survey, ensuring objectivity, and proving the research results.
- *Quantitative research method*, The author surveyed experts, representatives of mass organizations, and communities of Chau Duc district, BR-VT. Minimum sample size  $N \geq 5 * m$  (where m is the number of questions in the article), with a sample size large enough to satisfy both conditions as recommended by the factor research method (EFA) and the EFA method. Green's (1991) multiple regression method, size  $N \geq \max$  (sample size according to EFA requirements; sample size according to multiple regression requirements), corresponding to a scale of 20 observed variables, and 5 independent variables, then The minimum required number of samples is  $N \geq \max (50 + 8 * 5) = 90$  samples. Ensuring the reliability of research results, discussing and proposing factors affecting sustainable development, combined with the results of research on the current situation, the author proposes solutions for sustainable development in the area. Chau Duc district, BR-VT province.
- *Analyzing the reliability of the Cronbach's Alpha scale*, Hoang Trong & Chu Nguyen Mong Ngoc (2008), the reliability of the scale is evaluated by the Cronbach's Alpha coefficient, then the variables have a total variable correlation coefficient (item-total correlation) that is small ( $< 0.3$ ) will be eliminated, the scale is accepted when the Cronbach alpha coefficient meets the requirements ( $> 0.6$ ). Researchers agree that if Cronbach's Alpha is from 0.8 or higher to nearly 1, a good scale of 0.7 to nearly 0.8 should be used. Many researchers also believe that a Cronbach's Alpha of 0.6 or higher can be used when the concept being measured is new or new to respondents in the research context.

- *EFA exploratory factor analysis*, The condition for EFA analysis is to satisfy the following requirements: KMO coefficient (Kaiser-Meyer-Olkin) > 0.5; A large KMO coefficient means that factor analysis is appropriate; Factor loading > 0.5 ensures the value of meaningful observations in the study. According to Hair *et al* (2014), observations with Factor loading lower than 0.3 will be eliminated; The Bartlett test has statistical significance (Sig.) < 0.05 to ensure the hypothesis that the variables are correlated with each other in the population. Eigenvalue coefficient >1; Percent cumulative variance > 50% shows that the EFA model is appropriate.
- *Anova analysis, Levene test*, used to test whether variances are equal or not between groups; H0: "Equal variances", Sig <= 0.05: reject H0, Sig > 0.05: accept H0 -> qualified for further analysis of Anova.
- *Data coding and calculation*, After being collected, survey questions will be considered for validity. Valid

answer sheets will be encoded, entered, and cleaned on Excel and SPSS 23.0 software. Data is cleaned before performing calculations to detect and eliminate errors.

**4. Research results and discussion**

**4.1. Research results**

**4.1.1. Cronbach's Alpha test results**

*Cronbach's Alpha test results*, Observed variables with a total correlation coefficient < 0.3 will be eliminated from the model. The standard for the scale to meet requirements is when Cronbach's Alpha > 0.6 (Dinh Phi Ho, 2012). With 109 valid official samples and 05 criteria of the survey questionnaire, the variables met reliability requirements; The full-scale coefficient Cronbach's Alpha = 0.932 > 0.6 is within a good measurement level. The total correlation coefficients of the variables measuring this factor are all > 0.3, meaning all observed variables are accepted and will be used in the next factor analysis (Table 1).

**Table 1:** Cronbach's Alpha evaluates factors affecting sustainable development in Chau Duc district, BR-VT province

Observed variables	Coefficient of correlation of total variables	Cronbach's Alpha if variable type	Full-scale Cronbach's Alpha
Economic development	0.640	0.928	0.932
Social Development	0.671	0.928	
Environmental development	0.747	0.926	
Policy mechanisms	0.583	0.929	
Natural condition	0.481	0.932	

**4.1.2. Test for heteroskedasticity and correlation**

Observed variables are extracted into 20 factors at Eigenvalues = 1,223 (>1). The factor analysis results are reasonable, the total variance extracted reaches 91,918%

(>50%) of the variation of the data, this is the result. Acceptable variables were extracted into factors at the same time (Table 2).

**Table 2:** Variance explained by influencing factors

Factor	Variance extract			Variance Extracted			Total Variance Extracted		
	Total	Variance percentage	Accumulative percentage	Total	Variance percentage	Accumulative percentage	Total	Variance percentage	Accumulative percentage
1	9.224	46.121	46.121	9.224	46.121	46.121	9.224	46.121	46.121
2	3.701	18.507	64.627	3.701	18.507	64.627	3.701	18.507	64.627
3	2.370	11.848	76.475	2.370	11.848	76.475	2.370	11.848	76.475
4	1.866	9.329	85.804	1.866	9.329	85.804	1.866	9.329	85.804
5	1.223	6.114	91.918	1.223	6.114	91.918	1.223	6.114	91.918
6	0.389	1.945	93.864				0.389	1.945	93.864
7	0.283	1.416	95.280				0.283	1.416	95.280
8	0.236	1.180	96.460				0.236	1.180	96.460
9	0.169	0.845	97.304				0.169	0.845	97.304
10	0.130	0.650	97.955				0.130	0.650	97.955
11	0.105	0.523	98.478				0.105	0.523	98.478
12	0.085	0.427	98.905				0.085	0.427	98.905
13	0.070	0.350	99.256				0.070	0.350	99.256
14	0.044	0.221	99.477				0.044	0.221	99.477
15	0.033	0.163	99.640				0.033	0.163	99.640
16	0.027	0.133	99.773				0.027	0.133	99.773
17	0.015	0.073	99.846				0.015	0.073	99.846
18	0.012	0.062	99.908				0.012	0.062	99.908
19	0.011	0.055	99.964				0.011	0.055	99.964
20	0.007	0.036	100.000				0.007	0.036	100.000

*Extraction method: Principal component analysis*

Check the assumption that the independent variables do not have multicollinearity, The variance inflation factor VIF < 2, shows that multicollinearity does not occur and there is no

strong correlation between independent variables (Hoang Trong Chu & Nguyen Mong Ngoc, 2008).

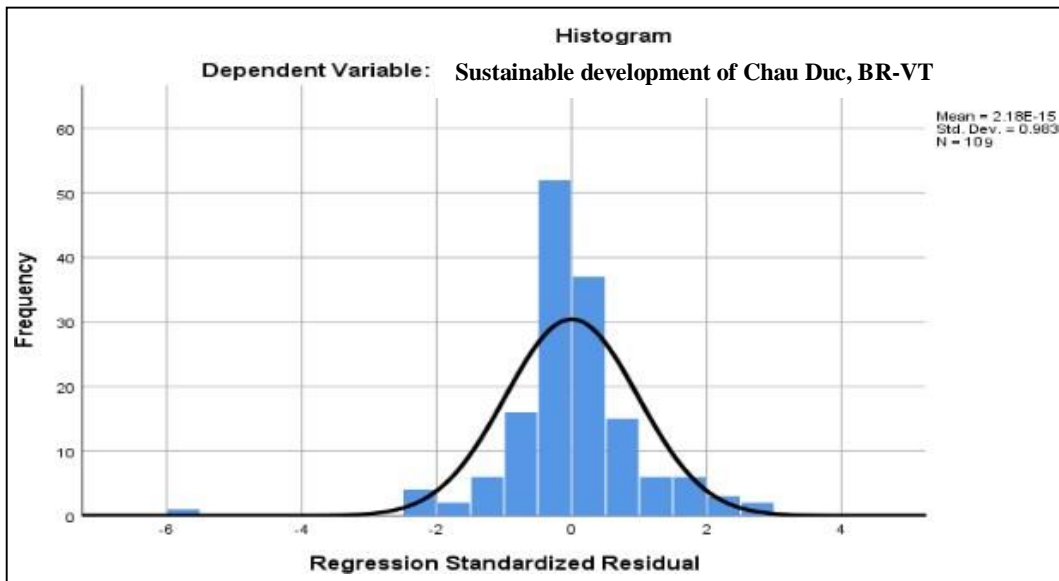


Fig 3: Testing assumptions about the distribution of residuals and autocorrelated residuals

We see that the graph of the residuals (Figure 3) has a balanced bell shape, the average value of the residual =  $2.18 \times 10^{-15}$  is very small and close to 0, and the deviation

value of 0.983 is close to 1; We conclude that the standardized residual has a normal distribution.

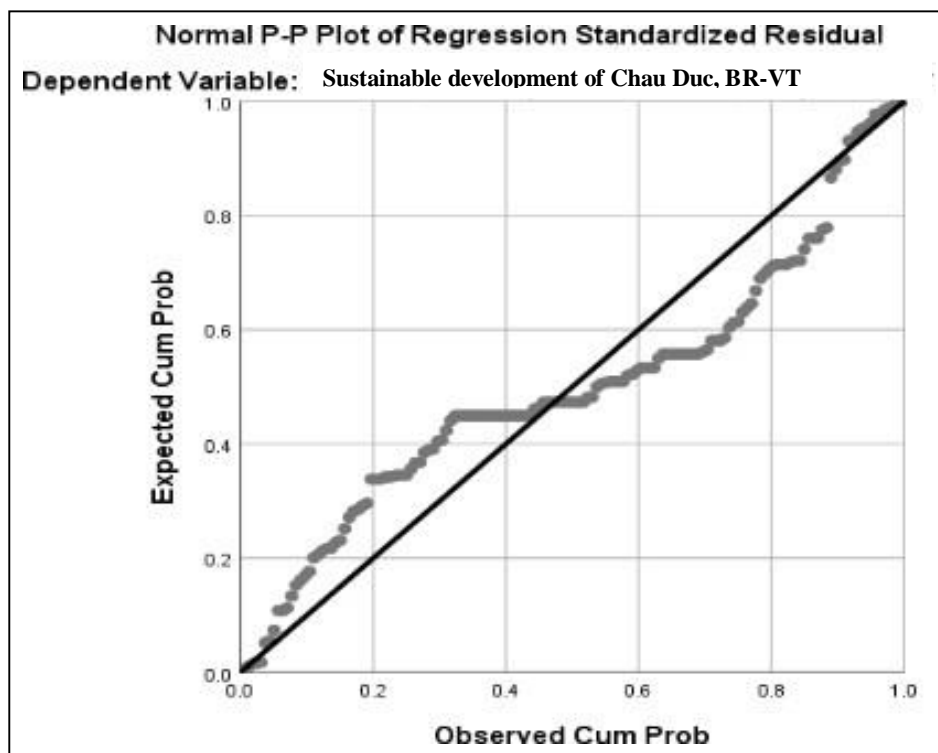


Fig 4: Residual correlation analysis graph

We see that the graph of the standardized residual value is randomly scattered along the value line = 0 (Figure 4), so we conclude that there is no autocorrelation phenomenon between the residuals.

**4.1.3. Results of EFA exploratory factor analysis**

Evaluate the scale through EFA exploratory factor analysis, KMO coefficient = 0.743 ( $0.5 < KMO < 1$ ). The Chi-Square statistic of Bartlett's test has a value of 5353.015 with a significance level of Sig.= 0.000, showing that the observed variables are correlated with each other. The results of EFA

analysis show that the total variance extracted reached 91.918% ( $> 50\%$ ), showing that these 5 extracted factors explain 91.918% of the variation of the data, this is an acceptable result and proves the grouping elements together is appropriate. The stopping point when extracting factors is at the 5th factor with Eigenvalues of  $1.223 > 1$ , indicating that the factor analysis results are appropriate. The observed variables have a satisfactory factor loading coefficient  $> 0.5$ , and no observed variable has a loading coefficient simultaneously on both factors, meaning that the scales have convergent validity (Table 3).

**Table 3:** KMO test for sampling adequacy KMO and Bartlett's Test

Kaiser-Meyer-Olkin test for sample adequacy		0.743
Bartlett's test of sample configuration	Equivalent to Chi-Square	5353.015
	Df	109
	Sig.	0.000

The results of exploratory factor analysis (EFA) show that the groups of exploratory factors are consistent with the research model.

**4.1.4. Linear regression analysis**

When linear regression analysis shows that there is no multicollinearity phenomenon, the multicollinearity statistics with the variance inflation factor VIF (Variance Inflation Factor) of the independent variables in the model are all smaller. 2, showing that there is no multicollinearity phenomenon (Table 4). As a result, all variables have statistically significant Sig values. = 0.000 (< 0.05). Thus, there are 05 influences on sustainable development in Chau Duc district, BR-VT province according to the standardized regression coefficient (Beta).

**Table 4:** Linear regression test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Hằng số)	0,329	0,272		1,208	0,001		
X1	0,302	0,054	0,354	5,597	0,000	0,677	1,477
X2	0,254	0,069	0,262	3,704	0,000	0,543	1,841
X3	0,218	0,069	0,229	3,139	0,002	0,507	1,974
X4	0,131	0,061	0,136	2,161	0,032	0,687	1,455
X5	0,027	0,041	0,037	0,661	0,005	0,871	1,148

*Linear function.* From the above results, we have a linear equation expressing the influencing factors (Xi) on Y- Sustainable development in Chau Duc district, BR-VT province, as follows:

$$Y = 0.354*X1 + 0.262*X2 + 0.229*X3 + 0.136*X4 + 0.037*X5$$

In summary, the linear regression model built according to the Y equation does not violate the necessary assumptions in linear regression. Therefore, the hypotheses are accepted with a statistical significance level of 5%, and the relationship between each factor and "Sustainable development in Chau Duc district, BR-VT province" is proportional.

**5. Discuss the results of the analysis**

*Sustainable development factor,* research results (Table 4), factor X1 - Economic development, with  $\beta'1 = 0.354$  has the most influence on sustainable development in Chau Duc district, province BR-VT. Because economic development is goal 8 and goal 9, two of Vietnam's 17 sustainable development goals until 2030 (Prime Minister, 2023); In particular, economic growth rate (goal 8) and economic restructuring (goal 9) are considered decisive factors for development, investment and capital support are the basis for assessment and revenue. Attracting local economic development and labor productivity factors has an impact on ensuring sustainable development... (Truc Giang, 2023) <sup>[18]</sup>.

*Social development factor,* research results (Table 4), factor X2 - Social development, with  $\beta'2 = 0.262$ , has the second influence on sustainable development in Chau Duc district, BR-VT province. Because social development is represented by the factors of poverty reduction, education, health care, and income... is an important goal that represents the sustainable social development of the locality, body, and mind. clearly shown in the goals (1-5, 11) of Vietnam's sustainable development until 2030 (Prime Minister, 2023). Debra Lam (2014) <sup>[5]</sup>, also said that "Sustainable development is synchronous development of all three aspects: economy, society (progress, equity; poverty reduction and employment...) and environment".

*Environmental development factor,* research results (Table 4), factor X3 - Environmental development, with  $\beta'3 = 0.229$ , has the third influence on sustainable development in

Chau Duc district, BR-VT province. Because socio-economic development and ensuring the environment must always balance all three aspects (World Summit on Sustainable Development, 2002). In goal 6 of Vietnam's sustainable development goals for 2030 (Prime Minister, 2023), it is necessary to "Ensure adequate and managed water resources and sanitation systems for all ", in which the ratios of communes with wastewater systems, garbage collection systems, and clean water use are mandatory indicators. Goal7 of sustainable development also states "Ensure access to sustainable, reliable energy...", meaning using clean energy is also an important target, along with goal 15 which is "Ensure sustainable forest protection...", with forest development from agricultural and forestry land areas being an important measure for sustainable development.

*A policy mechanism,* Also from the research results (Table 4), factor X4 - A policy mechanism, with  $\beta'4 = 0.136$ , also has an impact on Sustainable Development in Chau Duc district, BR-VT province. The economic development policy, social development policy, environmental protection mechanism, and sustainable development strategy are important factors mentioned in goal 16 of the Roadmap for implementing development goals. sustainable development of Vietnam until 2030 (Prime Minister, 2023). According to Bui Tat Thang (2017), "Sustainable development is a concept that covers sustainable economic, environmental and social development; Sometimes in some cases, people also add sustainable development in terms of institutions and policy mechanisms...".

*Natural conditions,* Also from the research results (Table 4), factor X5 - Natural conditions, with  $\beta'5 = 0.037$ , also has an impact on sustainable development in Chau Duc district, BR-VT province. Factors, Natural Conditions, Geographical Location, Infrastructure, Transportation, and Irrigation are also mentioned in target 9 "Building infrastructure with high resilience..." in the Roadmap process of implementing Vietnam's sustainable development goals to 2030 (Prime Minister, 2023), or the same as goal 9 in the Action Plan to implement Vietnam's sustainable development goals to 2030 locally. Ba Ria - Vung Tau province table (BR-VT Provincial

People's Committee, 2021).

From the results of researching the current status of sustainable development indicators and the results of analyzing factors affecting sustainable development in Chau Duc district, BR-VT province, it can be seen that Chau Duc district has not built a plan and completed the sustainable development plan for the locality, and at the same time have not yet synchronously built sustainable development goals and targets, accordingly, it is necessary to propose sustainable development solutions in Chau Duc district. BR-VT province until 2030.

## 6. Advanced solutions for sustainable development in Chau Duc district, BR-VT province, Viet Nam

### 6.1. Develop strategic plans and policy mechanisms for sustainable development according to the specific characteristics of Chau Duc district, BR-VT province

From the results of studying the current situation, Chau Duc district implemented Decision No. 599/QĐ-UBND on approving the Action Plan to implement Vietnam's sustainable development goals until 2030 in BR-VT province. following the direction of inheritance, not yet building a specific target plan for the locality, suitable to the characteristics of new rural districts, emerging from difficult, purely agricultural lands... (Pham Duc Trong, 2022) <sup>[14]</sup>. Meanwhile, the results of analyzing the policy mechanism factor (X5), have  $\beta^5 = 0.037$ , which affects sustainable development in Chau Duc district, BR-VT province. Therefore, Chau Duc district needs to quickly develop a strategic plan and specific goals for sustainable development according to local characteristics, linking sustainable development goals with development goals and tasks. economic, social, and environmental synchronization as stated in the Master Plan for the socio-economic development of Chau Duc district for the period 2016 - 2025, orientation to 2030.

### 6.2. Strengthen economic restructuring to ensure sustainable economic development

The results of the current situation study show that Chau Duc district's economic restructuring is slowing down partly due to the impact of the Covid-19 epidemic, while the district has no other solutions to overcome difficulties, to help Chau Duc create a breakthrough in economic development which is the foundation for sustainable development... (Truc Giang, 2023) <sup>[18]</sup>. The results of analyzing the economic development factor (X3), with  $\beta^1 = 0.354$ , is the most influential factor for local sustainable development. Therefore, Chau Duc needs to continue shifting its economic structure in a positive direction; First, gradually shift agricultural production to industry and services; Encourage the development of commodity production, identify key commodity products for development; Applying scientific and technological advances, production towards linkages and value chains; Second, Develop an open economy, operating according to the market mechanism with State management; proactive international integration; selecting breakthrough points, urban and industrial development planning to attract capital and high technology from developed countries; Third, focus on investing in developing economic infrastructure systems: industry, transportation, electricity supply, water supply and drainage, post and telecommunications,... for urban areas and rural areas, creating new High quality products, meeting international standards and at the same time have open

mechanisms, improved management and administrative procedures, creating attractiveness for investors in the area.

### 6.3. Associate economic development targets with ensuring social justice and environmental protection

The Master Plan for the socio-economic development of Chau Duc district for the period 2016 - 2025, orientation to 2030, clearly states the goal "Economic development must be associated with ensuring social justice and environmental protection." school". Results of analysis of social development factor (X2), with  $\beta^2 = 0.262$ , and environmental development factor (X3), with  $\beta^2 = 0.229$ , are the second and second most influential factors. The third is sustainable development locally. Therefore, Chau Duc needs to associate economic development targets with targets to ensure social justice and environmental protection... First, continue to exploit local strengths for socio-economic development; Promote the application of scientific and technical advances to improve product quality; Second, invest in improving the rural transportation system and mobilize maximum resources to create breakthroughs in increasing synchronous investment in infrastructure, continuing to improve the quality of new rural criteria that have been achieved, aiming to build up to standards of enhanced New Rural Areas and Model New Rural Areas, contributing to local socio-economic development and improving the quality of life of people in the area"; Third, promote existing advantages and potentials, prioritize industrial and tourism development and attract investment, creating new position and strength for the new industrial center of BR-VT with quality industrial projects. quality, high added value, using modern, environmentally friendly technology.

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