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A STUDY OF FACTORS AFFECTING REGIONAL LINKAGE IN ARGRICULTURAL DEVELOPMENT IN VIETNAM

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ABSTRACT: Regional economic linkage is essentially "the association between different economic actors in a region, based on economic interests as the main, in order to promote comparative advantages and create higher economic competitiveness. for an area. Forms of regional economic linkages are expressed in terms of economic space by territory, commodity chain, and production organization. Guidelines and policies on regional development and regional linkage not only create driving forces for economic development, but also help disadvantaged areas to well perform their functions of preserving natural resources, ecology, stabilizing security, politics, and society". This study analyzes factors affecting regional linkage. The results show that four factors consist of natural condition, social economic development, human resource, and policies affect the regional linkage. From the research results some solutions were proposed to promote regional linkage among regions to take advantages of each region in social-economic development.

Keywords: Regional Linkage, Natural Condition, Social-Economic Development, Human Resource, Policies

1.1. Introduction

Vietnam is in the process of making a transition from an agricultural economy operating under a centrally planned, bureaucratic, and subsidized mechanism to an industrialized economy operating under an open, market mechanism. and international integration, accompanied by the characteristics of a country with a sprawling area, complex dissected topography, and large disparities in development levels between regions.

To bring into play the potentials and strengths of each region, and at the same time give priority to the development of dynamic economic zones, creating attractiveness and spreading development to localities in the region and to other regions. Implement regional planning, regional policies; soon build and institutionalize the regional coordination mechanism in the direction of clearly defining the leading role and assigning specific responsibilities to each locality in the region. Overcome the situation where the economy is divided by administrative boundaries, or investment is scattered and duplicated.

1.2. Theoretical Background

1.2.1. *Regional Relationship and Linkage*

From an economic perspective, inter-regional relations are understood: "Interregional relations are an economic phenomenon, an objective necessity, due to the requirements of production development and socio-economic development, the development of forms of division of labor. The more specialized production is, the more each region cannot have the conditions to develop all industries and all products, requiring division and association. It's an inevitable process'.

From economic linkage, some authors put forward the concept of regional linkage, such as Hirschman (1958) that: "regional linkage is the process of backward and forward linkage of commodity market flows taking place. in a certain territorial space". According to Theodore Herzberg, "regional integration is the sum total of linkages in the economic, social, cultural, environmental and resource fields within a region or a group of regions". M. Porter said that "regional linkage is the linking of complementary industries; the goal is to increase competitiveness(Ketel, 2006). Methods are diverse, depending on the product value chain. It can be a key nucleus, other industry satellites around, but it can also be a chain of the same finished product passed through many stages, where each locality takes on the role of transit "…. Thus, the authors standing on different angles offer the concept of regional connectivity. In the author's opinion:

"Regional linkage is the cooperation between actors in order to turn potentials and comparative advantages into

competitive advantages of the region through the formation of a common economic space in the direction of concentrating resources in order to create a tissue and/or production specialization".

1.2.2. Natural Condition

Natural conditions are regulated by each region, including geographical location, climate, conditions of resources, minerals, potential for development, etc. These conditions will be potentials for development. of each region, creating a comparative advantage of the region. In the study of regional linkages, specific contents about geographical location.

Natural resources including land resources, forest resources, marine resources, mineral resources, tourism resources have an impact on the inter-regional relationship inclusive. Natural tourism resources are a very important factor for economic development through services and tourism of each region and the whole country. Each region has its own characteristics, its own resources, and its own development capabilities. Tourism exchanges are not only to attract tourists from different regions, but also serve as a basis for combining regions to form inter-regional tours. It can be said that natural conditions always have a positive impact, but also have a negative impact on development in general. It is necessary to have human-influenced measures to limit the negative part and exploit the positive part of those factors.

1.2.3. The level of socio-economic development of the region

The different economic conditions and capabilities of each region greatly affect the development of those regions. Areas with low per capita income and low educational attainment often find it difficult to use measures to improve the efficiency of regional development, and difficult to establish inter-regional relationships.

The level of development of each region determines the promotion of inter-regional relationships. Areas where large industrial parks and urban chains can be formed will create great conditions for the promotion of large-scale specialized industries with an open consumer market. Since then, the exchanges have grown stronger. The inter-regional relationship develops when there is a large difference in the level of specialized production between regions. Then the exchange between the place of shortage and the place of excess occurs more frequently and strongly. Structural homogeneity will lead to limited inter-regional exchanges. The development of the knowledge economy is an inevitable trend that is gradually becoming reality. The knowledge economy brings high-quality development results. Using modern knowledge in production and business is a new step to promote economic and social development. The above basic trends have and will have a positive and profound impact on the socio-economic development of each country in general and the development of regions. That trend is also a positive factor promoting the linking process between regions.

1.2.4. Human resources of the region

In addition to the objective factor that regulates the human resources of each country, the labor source as well as the production level can be supplemented, perfected, and developed through the process of training, improvement, addition and completion. improve human development indicators, in general and human development level and production skills.

The process of change in quantity and quality of human resources; the situation of exploitation and use of human resources, its impact on the socio-economic development of the territory are the basic contents of the study and assessment of labor resources for each region and inter-region. Researching human resources including determining the structure of employment by industry and territory; employment situation and use of working time in rural areas; urban unemployment, ...

1.2.5. Policies of region and government

Policies of countries (national policies), legal documents, institutions, and individual measures of each country will be important factors affecting to success or failure of regional development and regional linkages. The process of globalization has somewhat reduced the role of influence and power of "national states", but for each given country, there are different political regimes, different development policies and institutions. their own peculiarities. Development guidelines and institutions of each country must, on the one hand, comply with basic international regulations, and on the other hand, must be suitable to the natural and social conditions of each country. It is not only formed from natural conditions, but also depends on people, on the leadership system of separate countries.

1.3. Research Model and Hypotheses

From the model and the theoretical basis, the following hypotheses are proposed:
Natural conditions have an influence on regional connectivity. Localities with similar natural conditions will be more favorable to regional linkages for economic development. If two localities have soil conditions to develop industrial crops, they can link the region to form an area specializing in the cultivation of industrial crops for export. Thus, natural conditions affect regional linkages.

H1: Natural conditions has a positive effect on regional linkage
The socio-economic development of localities has an influence on regional linkages. Areas with similar

development conditions will easily conduct regional linkages to take advantage of regions and thus create common development to take advantage of regions.
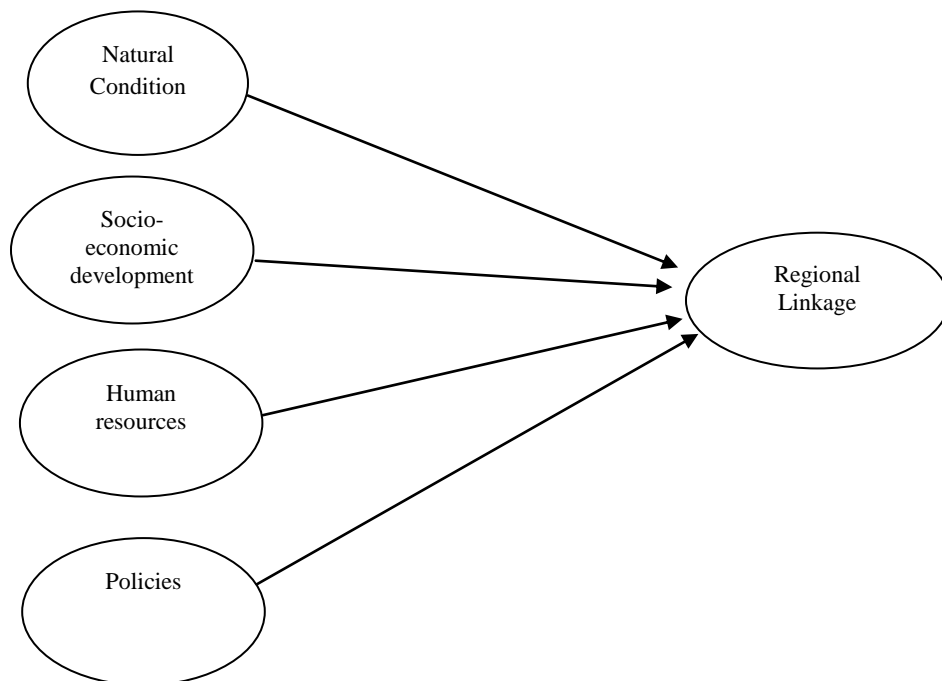
H2: Socio-economic development has a positive influence on regional linkages

The position and capacity of the parties, including resources, including human resources, capital and power, are factors affecting the linking process. The link is to make up for the lack of resources of the parties. However, when the resources of the parties are too small, scatteredly distributed and not yet connected to the system, the need for connection will not be an urgent issue.

H3: Human Resource has a positive influence on regional linkages

The support and incentive policies of the local and the state also have the effect of promoting regional linkage, especially when the motivation of actors to participate in the association is not large enough, the policies will have a positive effect. promote regional integration.

H4: Policies has a positive influence on regional linkages

Figure 1: Research Model
1.4. **Research Methods**
1.4.1. *Procedures*

This study used survey method by questionnaire. Participants were described about the purpose of the study and instructed to respond. The respondent will then fill out the questionnaire. The survey results from the questionnaire are then coded and entered the software for analysis.

1.4.2. *Sample*

The research team will conduct research on government officials, experts, people, and businesses to collect information on factors affecting regional linkages in Vietnam. Accordingly, the number of samples is determined by the formula $n=5*k+50$, where n is the number of survey samples, k is the number of items used in the questionnaire. Assuming the number of questions used in the questionnaire is 30, the number of survey samples will be $5*30+50=200$ observations. In this study, the number of questionnaires used is 20 items and to ensure the reliability of the scale as well as to prevent errors when answering the participants' questionnaires, the author also conducted a survey with the number of questionnaires of 200.

1.4.3. *Measurement*

To develop the scale, the author consults with experts, builds the questionnaires, then conducts a trial survey to check the reliability and discriminant validity, removes the inappropriate items and develops the standard scale. These items are rated on a 5-point scale ranging from strongly disagree to strongly agree. The list of questions asked is shown in Table 2 below.

1.4.4. *Data analysis process*

Data after investigation will be checked, encrypted, and input to the software. Data error checking will be performed to eliminate technical input errors. Based on the results of data analysis to draw conclusions about the research problem.

1.5. Analyze the results and test the hypothesis

1.5.1. Sample Profile

The survey subjects in the study included people aged 20-60 years old. In which, the number of men accounted for 52.5% and women accounted for 47.5%. These are people who are knowledgeable about regional affiliation. The age and sex structure of the study sample is shown in the table below. In terms of age, the customers range in age from 20 to 60 years old. In which, the number of guests aged 20-30 years old accounts for 20.5%, from 31-40 years old accounts for 28%, from 41-50 is 32.5% and the rest are people from 51-60 years old.

Table 1: Sample Information

Item	Characteristics	Number	Percent (%)
Age	20-30 Years old	41	20.5
	31-40 Years old	56	28.0
	41-50 Years old	65	32,5
	51-60 Years old	38	19.00
	Total	200	100
Gender	Female	95	47.5
	Male	105	52,5
	Total	200	100

1.5.2. Scale Purification

The results of factor analysis and reliability test for the "natural conditions" scale show that this scale ensures convergence and reliability when explaining for a factor, the correlation of total variables is higher. 0.5. Cronbach Alpha coefficient reached 0.85. The questionnaires explained 71.5% of the variance extracted in factor analysis. Four questionnaires were used for regression analysis.

The results of factor analysis and reliability test of the "socio-economic development" scale show that this scale also shows reliability and convergence when the items of questions explain for a factor, the value of the total variable correlation is high above 0.5. Cronbach Alpha coefficient reached 0.81, extracted variance value reached 75.6%. Four questionnaires were used for subsequent analysis.

The four items measuring "human resources" also explain a factor with a total correlation greater than 0.5. Cronbach Alpha coefficient reached 0.79. The extracted variance value is 68.5%. This scale ensures reliability and convergence.

Four items measuring "policy" also ensure reliability and convergence with the Cronbach Alpha value of 0.80. The extracted variance value is 70.5%. These four questions were used for subsequent analysis.

Table 2: Factor loading coefficient, total variable correlation, extracted variance value and Cronbach Alpha coefficient of the scales

Item/Factor	Factor Loading	Item-Total correlation	Extracted variance value (%)	Cronbach Alpha
Natural Condition			**71.2**	**0.81**
NC1: Areas with similar natural conditions	.91	.74		
NC2: Suitable for natural conditions	.90	.71		
NC3: Similarity in climatic conditions	.88	.69		
NC4: Similarities in economic development conditions	.89	.70		
Social Economic Development			**75.6**	**.85**
SOD1: The level of socio-economic development of the region is similar	.93	.80		
SOD2: Conditions for socio-economic development have compensating points	.91	.78		
SOB3: Economic development conditions are favorable for linkages	.90	.77		
SOD4: Having conditions for socio-	.93	.81		

economic development to complement each other				
Human Resource			68.5	.78
HR1: Human resources are favorable for linking parties	.89	.72		
HR2: Take advantage of the human resources of the parties when linking regions	.85	.70		
HR3: Human resources meet the requirements when the association develops	.91	.75		
HR4: Abundant human resources and advantages for economic links	.90	.75		
Policies			70.5	.80
PO1: Regulations to create corridors for linking regions	.94	.82		
PO2: Policies to encourage concentration of large-scale production	.87	.78		
PO3: Policies to support the centralized area model	.90	.80		
PO4: Policy to encourage the production of goods	.90	.80		
Regional Linkage			76.5	.84
RL1: Promote linkage of regions with similar conditions	.91	.81		
RL2: Promote regional linkages to exploit advantages of scale	.88	.76		
RL3: Strengthening solutions to link production between regions	.92	.83		
RL4: Strengthening links to increase competitive advantage	.92	.83		

1.5.3. Analyze the results and test the research hypothesis

Table 3 showed Lisrel estimates of the correlation coefficients among constructs and AVE. The AVE exceeded the square correlation between all pairs of constructs. The results showed that all constructs were discriminant.

Table 3. Construct Correlation Matrix

Construct	*AVE*	NC	SOD	HR	PO	RL
NC	*.506*	1.00				
SOD	*.502*	.52	1.00			
HR	*.611*	.57	.68	1.00		
PO	*.642*	.51	.63	.66	1.00	
RL	*.561*	.23	.31	.24	.31	1.00

AVE=Average Variance Extracted. NC=Natural Condition; SOD=Social-Economic Development; HR=Human Resource; PO=Policies; RL= Regional Linkage.

The model of factors affecting regional linkage was presented as following:

The dependent variable was the Regional Linkage while the independent variables were the four components. Next, the main independent variables were inputted to make a full regression model. The control model was formed as following:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

In which:

      Y: Regional Linkage

      $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$: Partial regression coefficients

      X_1: Natural Condition

      X_2: Social-Economic Development

      X_3: Human Resource

      X_4: Policies

The results of linear regression were presented in table 4.

Table 4. The regression results

Variables	Unstandardized Coefficients		Standardized Coefficient	T value	p-value	VIF
	B	Std. Error	Beta			
(Constant)	.768	.163		4.711	.000	
NC	.221	.039	.290	5.666	.000	3.657
SOD	.132	.049	.144	2.693	.007	3.099
HR	.101	.034	.132	2.970	.003	2.559
PO	.118	.040	.106	2.950	.004	1.811

Dependent Variable is RL

Hypothesis H1: This hypothesis stated that natural condition has a positive effect on regional linkage. The results from regression showed that variable NC had positive effect on regional linkage. The standardized coefficient of NC was .290 with p value was .000. Therefore, this hypothesis was supported. The results from hypothesis test implied that natural condition affected regional linkage.

Hypothesis H2: This hypothesis stated that social economic development has a positive effect regional linkage. The regression results showed that SOD had a positive effect on RL. The standardized coefficient of SOD was .144 and significant p-value was less than .01. This hypothesis was also supported.

Hypothesis H3: According to this hypothesis, human resource has a positive effect on regional linkage. According to the regression results, HR had effect on RL with standardized Coefficient was .132 with P-value <0.01. This hypothesis was supported.

Hypothesis H4: This hypothesis stated that policies have positive effect on regional linkage. According to the Table 4, variable PO had positive effect on RL with β = .106, p-value<.01. Therefore, this hypothesis was supported.

1.5. Discussion and Management Suggestions

The results from regression show that the natural condition affect regional linkage. The regional government has choose the regions with similar condition to take the regional linkage for development. The similar condition will help regions to be linked together to take advantages of wide area.

The data analysis results point out that Social-Economic Development has positive effect on regional linkage. The level of development between localities and regions will have an impact on regional linkages. Regions with similar levels of socio-economic development will have conditions for linkage in commodity production. Therefore, between localities with similar natural and socio-economic conditions, economic linkages will be easier. In planning work, it is also necessary to consider socio-economic development conditions to plan regions with similar conditions.

Human resources of localities are the most important resources in economic development of localities as well as regional linkages. With abundant and abundant human resources favorable for the development of commodity economy, the connection between regions will have many advantages. Therefore, in the planning and implementation of the planning of economic regions, it is also necessary to consider the human resources of the localities as well as the convenience in labor rotation between localities that make the regional linkage in economic development has many advantages.

State and local policies are very important in regional linkage. The regional linkage in the development of the commodity economy requires the policies of the state and the locality to facilitate regional linkage. Policy on land consolidation and exchange, policy on land and land accumulation are the policies that need to be considered when implementing regional linkage.

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