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IDENTIFICATION OF FACTORS OF FAILURE OF BARISAN MOUNTAINS AGROPOLITAN AREA DEVELOPMENT IN NORTH SUMATERA - INDONESIA

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Abstact: *The purpose of this study was determining factors inhibiting the development of Agropolitan area in North Sumatera. Some of the identifiable factors were location, market price, debt bondage practice, government regulation and focus and attention of the government, were factors inhibiting the development of Barisan Mountains Agropolitan. This study was conducted by performing survey of primary data and field identification directly in several regencies/cities of Barisan Mountains Agropolitan Area. Simultaneously, location, market price, debt bondage practice, government regulation and focus and attention of the government were the inhibiting factors of the development of Barisan Mountains Agropolitan. Partially, the most dominant factors in inhibiting the development of Barisan Mountains Agropolitan were non-supporting government regulation and focus and attention of the government.*

Keywords: *Agropolitan, Market Price, Debt Bondage Practice, Government Regulation and Focus and Attention of the Government.*

1. BACKGROUND

One of the concepts currently implemented in various regions is the agropolitan concept. Agropolitan is a rural area development approach, which emphasizes urban development at local rural level. The result of empirical study of rural – urban relation in the perspective of the development of agropolitan model in supporting local agribusiness-based economic development (Rusastra, *et.al*., 2002; Collier, *et.al*., 1993) formulates the following anticipated problems: (a) Relatively weak understanding of integrative and comprehensive concept on rural-urban relation, which includes the development cycle of conducive region, and agropolitan development process, which includes structure and rural-urban relation; (b) Weak understanding of concept, cycle,

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and agropolitan model development process impacted design and implementation, as well as formulations of required policies.

Various problems faced by the society in development include limited ability to process and utilize available natural resources potentials, limited access to sources of economic development, access to capital, access to production technology, access to business management, knowledge and skills of existing human resource and access to market information and continuation of production businesses Sihombing, *et al* (2015) and Suriadi *et al* (2015). Several researches on agropolitan program were performed by Budi (2013), Dewa (2014), Eilenberg (2014), Seyed (2014), Soegoto (2014), Tripitono (2015), Emil (2007), Kamarudin et al (2012) and Safariah (2016). Regional development and community economic empowerment today still rely on Development Trilogy, which is economic development, equalization and national stability. In line with the spirit of regional autonomy, to accelerate regional economic growth and public welfare, comparative and competitive advantages of regional natural resources should be managed integrally, optimally, and sustainably. The utilization of space and all resources functionally among various sectors to encourage strategic and potential economic sector to have balanced, sustainable and continuous regional growth. Barisan Mountains Highland Agropolitan Program in North Tapanuli is an integrated optimization of natural resources. Today, Agropolitan Program, which was started l5 (fifteen) years ago, is abandoned. Although there are constructions of several buildings which would be agricultural product sales centers in the agropolitan complex in Lobu Tua Vilage, Siborongborong Sub-District, North Tapanuli Regency, there isn't any agricultural activity in the agropolitan concept implemented in the area. In the agropolitan complex of North Tapanuli Regency, there is one orange plantation. But the orange plantation has existed before the area was made into agropolitan complex by the local government. Several buildings which will be agricultural product sales centers are completely abandoned. Other buildings are being finished by workers. However, the areas around the buildings aren't maintained. Weeds half a meter high grow around the building complexes. The weeds grow between paving blocks in the yards of the buildings. Meanwhile, the land area to be made into the agropolitan area has no activity taking place. Similarly, Sitinjo Agropolitan project of Dairi Regency is currently stagnant, as the auction market, which is the characteristic of an Agropolitan area as in North Tapanuli, isn't active. Theoretically, development which is biased to urban areas with various accesses is called urban bias (Douglas, 1975). Urban bias is discrimination against agricultural sector and rural areas. Urban bias may happen due to the tendency to prioritize economic growth through development centers. Douglas (1975) states that growth is predicted to have leaking effect on the hinterland areas. However, empirical phenomena show that it doesn't happen. What happens is a draining of rural areas by urban areas. Economically, there are massive transfers of resources from rural areas to urban areas.

Initial evaluation of agropolitan development pilot program is required to cover planning, operational strategy and financing, development management, and

formulation of success indicators. The success of the implementation of agropolitan development program will have significant technical and economic impacts on regional development in: (a) Harmonization and beneficial interrelation between rural and urban areas; (b) Increased production, diversification, and added value of agribusiness development, which are enjoyed by the community in the agropolitan development area; (c) Increased income, equalization of welfare, improvement of environmental management, and sustainability of agricultural and rural developments; and (d) In regional and national contexts, there will be efficient utilization of resources, increased regional comparative advantage, trade among regions, and strengthened implementation of development decentralization. (Nasution, 1998 and Rusastra *et al*., 2002). The problem of this study was what factors inhibit the development of Agropolitan area in North Sumatera, which was started in 1999?

2. THEORETICAL STUDY

2.1. Concept of Agropolitan

Agropolitan comes from the words Agro (agriculture) and Politan (city,) so agropolitan can be defined as an agricultural city, which grows and develops due to agribusiness system and enterprises and is able to serve, encourage, draw, drive agricultural development activities (agribusiness) in the surrounding area. As a concept of rural area development, agropolitan is developed by Friedman and Douglas (1975). Agropolitan is a rural development approach, which emphasizes on urban development at local rural level. Three main issues in this concept are:

(1) access to agricultural land and water,

(2) political and administrative authority devolutions from the center to local level,

(3) change of paradigm and national developmental policies to better support diversification of agricultural products.

Since rural cities as the main sites for political and administrative functions, agropolitan development is more suitable at district scale. Iit's because district scale will enable easier access for households or rural communities to reach cities, while expansive enough to increase and develop the scope of economic growth and expansive enough in developing product diversification to overcome limitations in utilizing villages as economic units. Moreover, local knowledge will be easily combined in the planning process if the process is near households and rural producers. Agropolitan approach is very appropriate for the spirits of decentralization and democratization as a part of political changes in Indonesia. Agropolitan gives proper space for rural development planning, which accommodates and develops local capacity (local capacity building) and community participation in a program which develops mutual benefits for rural and urban communities (Douglas, 1998). Considering existing rural developmental issues and problems, agropolitan area development is an alternative

solution for regional (rural) development. Agropolitan area here is defined as a rural functional system, which is shown by rural spatial hierarchy, by the existence of agropolitan center and villages around it.

2.2. Agropolitan Area

Agropolitan area is also characterized by an agricultural area, which grows and develops due to the implementation of system and agribusiness enterprises in the agropolitan center, which is expected to be able to serve and encourage agricultural development (agribusiness) activities in the surrounding areas. In its development, the area is inseparable from the development of national activity center system (RTRWN) and activity center system at provincial level (Provincial RTRW) and district level (District RTRW). It's because spatial planning is a joint agreement on spatial arrangement. In terms of National Spatial Plan (RTRWN), the development of agropolitan area should support the development of key regions.

2.2. Study of Previous Researches

The matrix of the results of the previous studies is shown in the Table below:

Table 1
Study of Previous Researches

No.	*Year*	*Researcher*	*Title*	*Variable*	*Research Result*
1.	2012	Fredericks	Exploring the Spatial Dimensions of Rural Development Models in Malaysia 1957-2007	Models, poverty, regional development, rural development, spatial.	Regional growth corridors reflecting a deepening sensitivity to territorial, population and global dynamics are the current policy instruments. These rural development processes and their spatial dynamics in post-independent Malaysia are explored in this paper.
2	2010	Shaffril at al	Agriculture project as an economic development tool to boost socio-economic level of the poor community: The case of Agropolitan project in Malaysia	Agropolitan, program development, planning, implementation, evaluation	The project was then implemented by Land and Regional Development Unit, Ministry of Rural and Regional Development with an appointed organizer, Rubber Industry Smallholder Development Authority. Close relationship between the planner, implementer, organizer, and also the project participants would develop a power to strengthen the project and success in the future.
3	2014	Iwan Nugroho	Agropolitan: Suatu Kerangka Berpikir Baru Dalam	Human Resources Development, Promotion and	Fund sharing contribution for the agropolitan development was (i) central government, 10 to 20

contd. table 1

No. Year Researcher	*Title*	*Variable*	*Research Result*
	Pembangunan Nasional?	Institution	percent; (ii) province government, 21 to 40 percent; and (iii) regency or municipality government 41 to 60 percent. In East Java, Pasuruan and Sidoarjo regency were proposed as agropolitan area based on some reasons as follows: (i) perform significant entrepreneurship of human resources; (ii) in line with the development plan of Agribusiness Market Center in Jemundo Village, Sidoarjo Regency; and (iii) provide a high access to Tanjung Perak harbor and Juanda International Airport. Both regency areas have resulted leading commodities such as estate plant (mangoes, apple, sugarcane), fisheries, horticulture (high altitude vegetables), livestock (cow-milk and poultry) and wood craft and mebellair (from forest product).

2.3. Conceptual Framework

The conceptual framework in this study was:

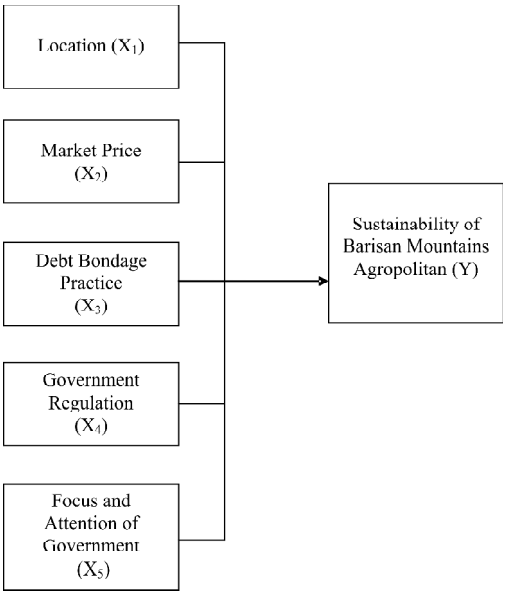

Figure 1 : Conceptual Frameworks

2.4. Hypothesis

Location, market price, debt bondage practice, government regulation and focus and attention of government are inhibiting factors of the development of Barisan Mountains Agropolitan.

3. RESEARCH METHOD

The research type was survey explanatory, which explain the relations of a phenomenon. The research data was primary data, which was based on direct exploration using a survey mechanism in the field. The research location covered North Tapanuli Regency, Karo Regency and Dairi Regency of North Sumatera Province - Indonesia. The research population was relevant parties in the development of Agropolitan area, such as the Department of Agriculture, Department of Public Work, Department of Industry and Commerce, Bureau of Research and Development, assisstant implementer, agribusiness actors, which consisted of producers and input merchants, agricultural producers, producers of agricultural processing products, merchants and exporters, business partners, financial institutions, totaling in 176 people in North Tapanuli Regency, Karo Regency and Dairi Regency. The sampling in this study was performed using snowballing sampling. The independent variables were location, market price, debt bondage practice, government regulation and focus and attention of government, while Sustainability of Barisan Mountains Agropolitan was the dependent variable. To test the hypothesis, multiple regression analysis was performed. The mathematical form was:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

Where :

Y= Sustainability of Barisan Mountains Agropolitan

X_1 = Location

X_2 = Price

X_3 = Debt bondage practice

X_4 = Government regulation

X_5 = Focus and attention of government

a = Constant

b = Regression Coefficient

e = Error

Analysis by SEM AMOS requires several fit indices to measure the correctness of the proposed model (Kock, 2013). There are several fit indices and cut–off values to see whether a model is accepted or rejected (model fitness test) including Effect size, Output combined loadings and cross loadings, Output pattern loading and cross

loading, Output indicator weight, Output latent variable coefecient, Q squared (Stoner-Geisser coefficient), Full colinearity test, Output correlations among Latent variable, Output block VIF, Output correlation among indicator and Output indirect and Total Effect if necessary. Kock (2013).

4. RESEARCH RESULT AND DISCUSSION

4.1. Respondents' Characteristics

The respondents of this research consisted of:

Table 2
Research Respondents

Gender	*Total*
Male	132
Female	42
Total	174
Age Group	
20 - 30 Years Old	28
31 - 40 Years Old	21
41 - 50 Years Old	40
51 - 55 Years Old	65
Total	174
Education Level	
High school and below	137
Associate's Degree	23
Undergraduate	14
TOTAL	174

Source: Tabulation Result (2016).

4.2. Result of Normality Test

The result multivariate normality test was shown in the table below:

Table 3
The Result of Normality Test

Variable	*min*	*max*	*skew*	*c.r.*	*kurtosis*	*c.r.*
kabb5	1,000	5,000	,127	,702	-1,311	-3,630
kabb4	1,000	5,000	-,084	-,463	-1,215	-3,366
kabb3	1,000	5,000	-,013	-,074	-1,258	-3,483
kabb2	1,000	5,000	,395	2,189	-1,158	-3,207
kabb1	1,000	5,000	,001	,003	-1,429	-3,957
fpp3	1,000	5,000	-,129	-,713	-1,528	-4,231
fpp2	1,000	5,000	-,132	-,729	-1,504	-4,165
fpp1	1,000	5,000	,363	2,011	-1,331	-3,685
pp1	1,000	5,000	,762	4,218	-,546	-1,511
pp2	1,000	5,000	,091	,501	-1,434	-3,970
pp3	1,000	5,000	,771	4,268	-,639	-1,770

contd. table 3

Variable	*min*	*max*	*skew*	*c.r.*	*kurtosis*	*c.r.*
pp4	1,000	5,000	,644	3,564	-,854	-2,365
h1	1,000	5,000	-,199	-1,102	-1,419	-3,930
h2	1,000	5,000	-,710	-3,931	-,772	-2,136
h3	1,000	5,000	-,633	-3,506	-1,023	-2,832
l1	2,000	5,000	-1,395	-7,723	3,275	9,069
l2	3,000	5,000	-,641	-3,549	-1,031	-2,853
l3	4,000	5,000	,285	1,581	-1,919	-5,312
pi3	1,000	5,000	,451	2,496	-1,015	-2,812
pi2	1,000	5,000	,290	1,608	-1,234	-3,416
pi1	1,000	5,000	,206	1,138	-1,291	-3,575
Multivariate					49,428	10,786

Source: AMOS Result. (2016).

Based on the result of normality test critical ratio (c.r) of kurtosis value is 10,786, showing that the research variables had normal multivariate distribution. As stated by Ghozali (2005), *critical ratio* > 5 indicates that data has normal multivariate distribution.

4.3. Multicolinearity Assumption

Based on observation on correlation matrix, there is no correlation coefficient bigger than 0,80, so it's concluded that there is no multicolinearity problem between measurement variables, as well as latent variables.

4.4. Result of Model Fitness Test

The result of model fitness test in Structural Equation Modeling is:

Minimum was achieved

Chi-square = 806,026

Degrees of freedom = 174

Probability level = ,000

The overall result of model fitness test shows that the model of the estimation result is accepted.

4.5. Measurement Model

Measurement model is a model connecting latent variables with manifest variables as follows:

4.5.1. Measurement Model

The measurement of latent variables X_1, X_2, X_3 X_4, and X_5 show indicator weights bigger than loading factor value < 0.5, meaning all indicators were valid as measurements of the latent variables.

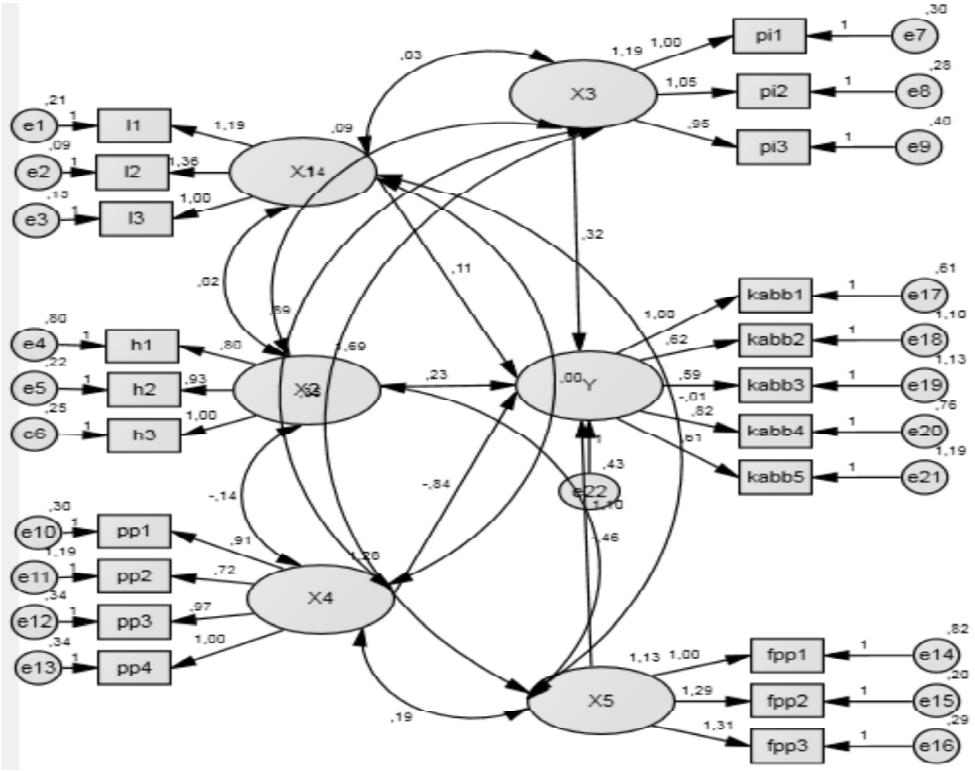

Figure 2 : Full Model of the Research

4.5.2. Evaluation of Causality Test

Data processing by Structural Equation Model (SEM) AMOS analysis, so the result of relation between variables is shown in the Table below:

Table 4
Regression Weights

			Estimate	*S.E.*	*C.R.*	*P*	*Label*
Y	<—-	X1	,112	,255	,440	,660	par_16
Y	<—-	X2	,225	,108	2,090	,037	par_17
Y	<—-	X4	-,839	,115	-7,323	***	par_18
Y	<—-	X5	-,461	,138	-3,336	***	par_19
Y	<—-	X3	,322	,109	2,958	,003	par_20
pi1	<—-	X3	1,000				
pi2	<—-	X3	1,050	,059	17,743	***	par_1
pi3	<—-	X3	,946	,060	15,813	***	par_2
l3	<—-	X1	1,000				
l2	<—-	X1	1,356	,231	5,859	***	par_3
l1	<—-	X1	1,187	,193	6,164	***	par_4

contd. table 4

			Estimate	*S.E.*	*C.R.*	*P*	*Label*
h3	<—-	X2	1,000				
h2	<—-	X2	,930	,043	21,468	***	par_5
h1	<—-	X2	,805	,059	13,746	***	par_6
pp4	<—-	X4	1,000				
pp3	<—-	X4	,975	,057	17,132	***	par_7
pp2	<—-	X4	,718	,079	9,045	***	par_8
pp1	<—-	X4	,912	,054	17,051	***	par_9
fpp1	<—-	X5	1,000				
fpp2	<—-	X5	1,289	,091	14,185	***	par_10
fpp3	<—-	X5	1,305	,094	13,919	***	par_11
kabb1	<—-	Y	1,000				
kabb2	<—-	Y	,620	,088	7,031	***	par_12
kabb3	<—-	Y	,590	,088	6,683	***	par_13
kabb4	<—-	Y	,825	,087	9,510	***	par_14
kabb5	<—-	Y	,608	,091	6,719	***	par_15

Source: AMOS Output (2016).

The resulting equation was :

$$Y = 0, ,112X_1 + 0,225X_2 + 0,322X_2 - 0,839\ X_4 - 0,461\ X_5 + e$$

Evaluation of Regression Weight for causality used CR value. The test result as presented in the Table shows that all regression coefficients are significantly not equal to zero, therefore hypothesis null that regression weight equals to zero was rejected, and alternative hypothesis that each indicator has causality relationship was accepted. The strength of the dimensions forming latent factors could be tested using Critical Ratio (CR) on the regression weight produced by the model. CR was identical with t_{count} in regression analysis. CR bigger than 2.0 (Ferdinand, 2000) shows that the variables are significant dimensions of the factors. It's also shown in the output of AMOS with *** which shows probability below alpha 5 % (0.000). The equation meant Government Regulation (X_4) and Focus and Attention of Government (X_5) significantly influenced the Sustainability of Barisan Mountains Agropolitan. Other variables, which were Location (X_1), Market Prince (X_2) and Debt Bondage Practice (X_3) didn't play any major role of the development of Barisan Mountains Agropolitan.

5.1. Discussion

Theoretically, regional growth is possible if there is growth of capital based on human resources, capital resources and environmental resources developments. The resources development will create flow of goods as a sign of economic growth. Urbanization and sub-urbanization were causes of failure of agropolitan concept because increasing migration reduced agricultural lands. To prevent it, there should be serious actions in maintaining the utilization of space established in the regional layout, so the functions of agricultural lands didn't change. The concept of residential area development, especially in terms of building structure, suitable for agropolitan was vertical residences (multistory buildings), which saves land. The description of the physical condition of

the agropolitan was a city characterized by multistory buildings, with a spatial structure where non-agricultural area (especial residential and industrial areas) bordered by road to a certain limit, consistent with the regulations in effect, to agricultural area. The focus was how to make the industry developing in the Agropolitan to be industries with *forward linkage* and *backward linkage* with agricultural activities developed in the hinterland, which was by developing industries which process agricultural products from the hinterland, while the central/provincial government provided support through trainings for farmers, marketing support and information. Every area was developed with its own specification (1 Agropolitan with 1 main commodity). The development of a region shouldn't copy (*blue print*) of other successful regions. Every region should have it's own main commodity or characteristics.

The government was viewed as not supportive to the agricultural sector. This was shown by increasing number of policies not in favor of the agricultural sector, including policies on opening agricultural import, and low bargaining power of farmers on banks, and declining number of farmers. The government's inconsistency in agricultural revitalization and various agricultural issues was suspected to be an inhibitor of agricultural development, such as (1) poor land condition with conversions of potential agricultural lands into property sectors, such as residential areas and hotels, and industrial areas, as well as mining, (2) unsuitable seedling for existing weather change since existing seeds couldn't adjust with changing weather condition, causing poor production, (3) neglected infrastructures since the government no longer saw the infrastructures as the start of the agricultural development, for example the New Order built dams, but the reformation era didn't maintain agricultural infrastructures until some dams broke down, (4) Weak human resources, (5) farmer financing wasn't supported by conventional financial institutions and worsened by lack of bank concentrating on agriculture, so farmers turned to middlemen, who charged high interest, so they monopolized the agricultural sector., (6) weak and non-synergic farmer institution. There was also regional autonomy government system, which made agriculture an optional policy instead of main obligation of the government in development. This was supported by the research by Rusastra et al (2014) the improvement of agropolitan development model should be facilitated by strategic government policies as follows: (a) Trade policies which are able to ensure the stability of domestic prices as a part of incentive system to increase production and income; (b) Bringing basic rural investment services (input market and processing) closer to encourage increased job opportunities and income; (c) Directing urban functions to provision of non-agricultural job opportunities, expansion of production market, and agribusiness information; and (d) Directing policy intervention to acceleration of rural-urban reciprocity (human resources, production, commodity, capital, and information) which benefit rural areas.

Future study in the second year should study government policies which are considered not supportive to the agricultural sector. Policies which don't support the agricultural sector should be analyzed, including increased number of policies related

to opening agricultural import, low bargaining power of farmers on banks, reduced number of farmers, and government's inconsistency in agricultural revitalization agenda.

5. CONCLUSION AND SUGGESTION

5.1. Conclusion

1. Simultaneously, location, market price, debt bondage practice, government regulation and focus and attention of government were inhibiting factors of the development of Bukit Barisan Mountains Agropolitan.
2. Partially, the most dominant inhibitors to the development of Barisan Mountains Agropolitan were government regulation and focus and attention of government.

5.2. Limitation

1. The research locatio only covered North Tapanuli Regency, Karo Regency and Dairi Regency. Other agropolitan areas, such as Humbahas and Simalungun weren't included in this study.
2. The variables in this study were only location, market price, debt bondage practice, government regulation and focus and attention of government.

5.3. Suggestion

1. The sample in future studies should also cover Humbahas and Simalungun Regency, which are Agropolitan Areas of North Sumatera.
2. Future studies should study government policies, which are considered not supporting the agricultural sector. Policies which don't support the agricultural sector should be analyzed, including increased number of policies related to opening agricultural import, low bargaining power of farmers on banks, reduced number of farmers, and government's inconsistency in agricultural revitalization agenda.

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