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The Strengthening of Development Capital and Governance towards Sustainable Livelihood in Coastal Areas of Medan

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Abstract *The objective of the research is to analyze the potential and sustainable livelihood through the strengthening of development capital and governance applied to the sustainable livelihood of coastal community in Medan. The present research used descriptive quantitative method. The analysis was used to answer the hypothesis testing using Structural Equation Model or SEM to view relationship in the strengthening between development capital and governance towards the livelihood sustainability in coastal community. Furthermore, through this relationship, a model was then designed for sustainable livelihood development via the strengthening of development capital and governance. The results indicate that sustainable development and governance positively and significantly affect the development capital. However, the existing potential of development capital should be improved through community empowerment model to be better, stronger and more sustainable.*

Key words Sustainable livelihood, development capital, governance

JEL Codes: H51, H53, I15, I38

1. Introduction

The poverty occurring to fishing community is a reflection of fishermen's powerlessness in improving their living standard. Poverty - which is an indicator of underdevelopment in coastal community - is caused by three majorities, namely structural poverty, super-structural poverty and cultural poverty. These variables include the level of education, custom, culture, and loyalty to particular beliefs, and obedience to role models. This cultural poverty is difficult to handle as the cause is deeply attached in the pattern of community life (Nikijuluw, 2001). Another poverty root of fishing communities is their high dependence on fishing activities. Poverty may be diminished if alternative employment opportunities are available, besides fishing. However, limited and low skills in fishing activities diversification make them one of contributing causes of poverty.

There are many causes of Indonesia underdevelopment in terms of exploration and exploitation of marine resources and fisheries. The major cause is the weakness of the community, especially the weakness of coastal community in managing marine resources and fisheries there. In the opinion of Mandikanto *et al.* (1982) as cited by Solihin *et al.* (2005), the knowledge or the lack of marine human resources - especially fishermen - may lead to lower earnings and growing difficulties in realizing marine development in Indonesia. Besides the people, the underdevelopment is also resulted by the lack of government attention to the development of marine and fisheries sector.

One of the coastal areas in North Sumatra is located in Medan Belawan, Medan. The majority of the people work as conventional fishermen and fish cultivators. The general problem of Medan Belawan District is poverty (Head Office of Environment, 2010). The same data show that 90% of fishermen families are receiving rice for the poor. The data indicate the lack of government intervention in poverty reduction in the fishing sector. Such situation is pretty much resulted from ambiguous status of Medan's Kampung Nelayan. Administratively, the majority of the population is included as residents of Deli Serdang.

Ecologically, the coastal ecosystem of Kampung Nelayan, Medan Belawan in Medan begins to fail, mainly because of openings of fishing ponds and plantations oil palm plantations. Currently, the condition of these ponds is no longer productive in general. Meanwhile, the land previously used as ponds was abandoned by entrepreneurs, making them neglected and unproductive. In general, difficulties in maintaining sustainable livelihood can be viewed from several perspectives: First, the community's ability to maintain sustainable living; Second, the community's ability to develop diversified resource processing. The most crucial constraint encountered is the inability of the community to sustain either livelihood or develop diversified natural resource processing.

The independence of fishing community is a highly determining stage in the success of sustainable empowerment. The element of community independence is determined by own economic ability, development political capacity and the social principles believed to create a better community's life order. The inability of the community will impact on the lack of their good bargaining position for improving their livelihood and community empowerment process. It has become one culprit of stagnation in development process of coastal community. Stagnation does not stop on the use of natural resources and

power of social capital, but on how to increase human resource capability to be involved in decision-making of the region's development (Suriadi *et al.*, 2015; Muda *et al.*, 2016; Sirojuzilam *et al.*, 2016). In addition, the optimal utilization of human resources should be considered in the planning, implementation, and evaluation of the activities of coastal development. All of these will be achieved with the participation of the government through good governance. In this study, the use of development capital will be observed in the coastal areas of Medan via good governance in order to realize sustainable livelihood.

2. Literature review

2.1. Sustainable Development

Sustainable Livelihood Approach is a conceptual framework regarding the objective, scope and priority of human development. Livelihood contains capability, capital (including material and social resource) and activities needed a means to survive. A livelihood is said to be sustainable when it can handle and regain from turbulent and pressure, maintain or improve the ability and capital owned today and in the future, instead of just relying on natural resources.

a. Increased Income

In the business, income is amount of money received by the company from its activities, mostly from product sales and/ or services to the customers. For investors, income is less important than the profit, which is the amount of money received after being reduced by expense. Income is an important indicator of market acceptance of the company's products and services. Consistent income and profit growth is also considered important to the company sold to the public through its stock to attract investors.

b. Welfare Improvement

In general terms, welfare refers to a good condition, a condition where the people are in wealth, good health and peace. In economy, welfare is associated with advantages of objects. Welfare has special meaning, i.e. official or technical.

c. Improving Food Security

Food security is food availability and one's ability to access it. A household is said to have food security when the members are not starving or haunted by the threat of hunger (FAO Agricultural and Development Economics Division, June 2006). Food security is a measure of resilience against future disruption of economic instability, war, and so on. Food security assessment is divided into self-reliance or self-sufficiency and external dependency, dividing a series of risk factors.

d. Natural Resource Management

Many types of natural resources are basic ingredient for management to meet all human needs. In the process of natural resources, it should be based on the principles of the environmentally-sound and environmentally-sustainable. Environmentally-sound means to consider the sustainability and not to cause negative impacts for living environment. Environmentally-sustainable means that natural resource processing should not become extinct. The continuity of it should be taken into consideration.

2.2. Development Capital

A series of sustainable development efforts are to make changes and improvements in all sectors. The development is a series of sustainable development efforts, including the entire aspects of the community, nation and state. The development capital consists of:

a. Social Capital

The term social capital firstly appeared in community study to show the importance of strong and deep (crosscutting) personal relationship network, developing slowly as the basis for mutual trust, cooperation, and collective action of related community.

b. Human Capital

Human capital has an important role in the creation of economic value and business (McGregor *et al.*, 2004; Karami *et al.*, 2006). Human capital covers all processes capable of triggering a higher level of knowledge and bringing forth competitive entrepreneurs and running the business more properly. Factors of capability and quality human capital are necessary to improve the company's performance, particularly in small and medium industries (Skuras, 2005).

c. Physical Capital

Physical capital as an economic resource controlled by entity is viewed as physical production capacity, and the company's ability to produce goods and services. Physical capital consists of current assets and fixed assets. In general, it takes regular and permanent current assets to run the operational activities of the company. The same goes with the fixed assets, these assets are also highly essential for production activity, because without the equipment, machinery, buildings, vehicles and land, there will be no production activities in the manufacturing industry. The availability of physical capital in the manufacturing industry serves to implement normal production area, ensuring that business continuity.

d. Financial Capital

Financial capital is the amount of loans in the company. The better the company performance in the eyes of its creditors, the higher the level of creditor's confidence to lend their fund to the company. In addition, from the creditor's point of view, financial capital can also be viewed from the shareholders' perspective.

e. Natural Resources Capital

Natural resources are everything coming from nature that can be used to meet the needs of human life. Including therein are not only biotic components, such as animals, plants and micro-organisms, but also abiotic components, such as oil, natural gas, varying types of metal, water, and soil (Barrow, 2010).

2.3. Governance

In the opinion of Ganie and Rochman (2000), the governance translates as "the mechanism of economic and social resource management involving the influence of state and non-government sector in a collective activity". In order to realize accountable government, with reference to UNDP, the State Administration (LANRI) formulates fundamental aspects (foundations / principles) to be considered:

- a. *Participation*; it is the participation of the people in decision-making, either directly or through legitimate representative institutions which represent their interests. The form of participation is built upon the principles of democracy: the freedom of assembly and to constructively raise opinions. In this case, deregulation of bureaucracy is required for making the business process effective and efficient.
- b. *Transparency*; the principle of transparency is an important element to support the realization of good and clean governance. Transparency is built upon the free flow of information. The entire process of government, institutions and information should be accessible to the interested parties, and the available information has to be sufficient to understand and monitor.
- c. *Predictability* is a situation where we - who are in the outside of the elite circle - can predict the behaviors of the parties based on signals they give from the beginning.
- d. *Accountability*; it is the accountability of public officials to the people who gave the authority for them to manage their interests. In this case, every public official is required to be responsible for all policies, decisions, actions, moral and neutrality in attitude towards the people.

3. Hypothesis

The hypothesis of this research is: the development capital and governance has effects on the sustainable development.

4. Methodology of research

4.1. Types of Research

It was explanatory research for studying the research hypothesis on the relationship between development capital and governance on the strengthening of sustainable development. The research development was also conducted to get the answers to the research hypotheses, making the causes of the problems examined clear; and what the right model was to resolve the problems occurring.

4.2. Population and Samples

Here, the researcher distributed 300 questionnaires to the population, the people living in the Belawan coastal area, Medan, specifically in Kampung Nelayan XII Environment, Belawan I Village, Medan Belawan District. The 300 questionnaires were samples representing the families in four hamlets in Kampung Nelayan Village.

4.3. Variable Measurement

1. Sustainable Livelihood

There were four indicators used for measurement, including access to economy, education, health and self-actualization.

2. Capital Development

There were five indicators used for measurement, including capitals of physical, social, human, financial, and resources.

3. Governance

There are four indicators employed for measurement, including accountability, participation, transparency, and predictability.

4.4. Data Analysis Technique

In this research, the data that have been obtained were analyzed using descriptive analysis and linier regression. The descriptive analysis was used to present a description of a phenomenon being observed. The regression analysis was used to determine the effects of one independent variable on dependent variable. SPSS applications were used to analyze the data.

5. Data analysis

5.1. Respondents' Characteristics

From the questionnaires distribution conducted to 300 families, the following results are found (Table. 1): The demographic characteristics of the respondents shows 27.3% of respondents are comprised of men, and the remaining, 72.7% are women. The average age of respondents was 40 years old. The majority of respondents is of Banjar Ethnicity, at (31.0%); followed by Malays (27.0%), Javanese (19.7%), Aceh (6.0%), Padang (3.7%) and others (7.0%). All respondents are Muslims (100.0%). The majority of respondents have income below IDR 500,000 (50.7%), Rp500.001-1,000,000 (17.7%), and IDR 1,000,001-3,000,000 at (31.7%).

Table 1. Respondents' Characteristics

1. Gender	
• Men	27,3%
• Women	72,7%
2. Age	
• In average	40,23%
• Std. of deviation	14,37%
3. Ethnicity	
• Malays	27,0%
• Banjar	31,0%
• Javanese	19,7%
• Batak Mandailing	5,7%
• Aceh	6,0%
• Padang	3,7%
• Others	7,0%
4. Religion	
• Muslim	100%
5. Income	
• 0-500.000	50,7%
• 500.001-1.000.000	17,7%
• 1.000.001-3.000.000	31,7%
6. Length of Stay	
• 0-5 years	8,3%
• 6-15 years	18,0%
• 16-25 years	28,7%
• > 25 years	45,0%

Source: Research Results, 2016 (processed data)

5.2. Effects of Sustainable Development using Development Capital and Governance

The governance has positive and significant effects on the development capital. Therefore, the better the governance being implemented, the better the development capital being formed. Governance also has positive and significant effects on

sustainable development, either directly or indirectly through development capital. The better the governance being conducted, the higher the sustainable development that happens. The development capital partially mediates the effect of governance towards sustainable development. Thereby, the governance will be greater through the mediation of development capital. The governance positively affects the capital development; and subsequently, the capital positively affects the sustainable development happening. Development capital positively and significantly affects on sustainable development. The higher the development capital owned, the better the sustainable development outcome to be formed. The description above is summarized in Table 2A and Table 2B below. The summary is the result of the data testing using SPSS and SEM.

Table 2. A. Effects between Variables (Standardized)

Effects	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation
Governance → Development Capital	0.745	-	0.745	-	
Governance → Sustainable Development	0.604	0.313	0.917	34.13%	Partial
Development Capital → Sustainable Development	0.602	-	0.602	-	

Table 2. B. Significance of effects between variables

			Estimate	S.E.	C.R.	P
Development capital	←	Governance	.627	.052	12.024	***
Sustainable development	←	Development capital	.418	.071	5.905	***
Sustainable development	←	Governance	.506	.061	8.349	***

5.3. The Development of Sustainable Development Mapping Model through the Strengthening of Development Capital and Governance

The sustainable development framework is centered on a group of people. The objective is to help the stakeholders with varying perspectives to be engaged in the structured exchange-of-idea activities and clear understanding of the factors affecting the livelihood; significance of interrelated interests; and how these factors interact. This, in turn, can help identify the proper initial steps to support livelihood. Through identification of the potential and effects, the most enabling model can be determined for the existing components to strengthen and support every role. Below is an analysis model after three variables, namely the sustainable development, development capital and governance, being modified.

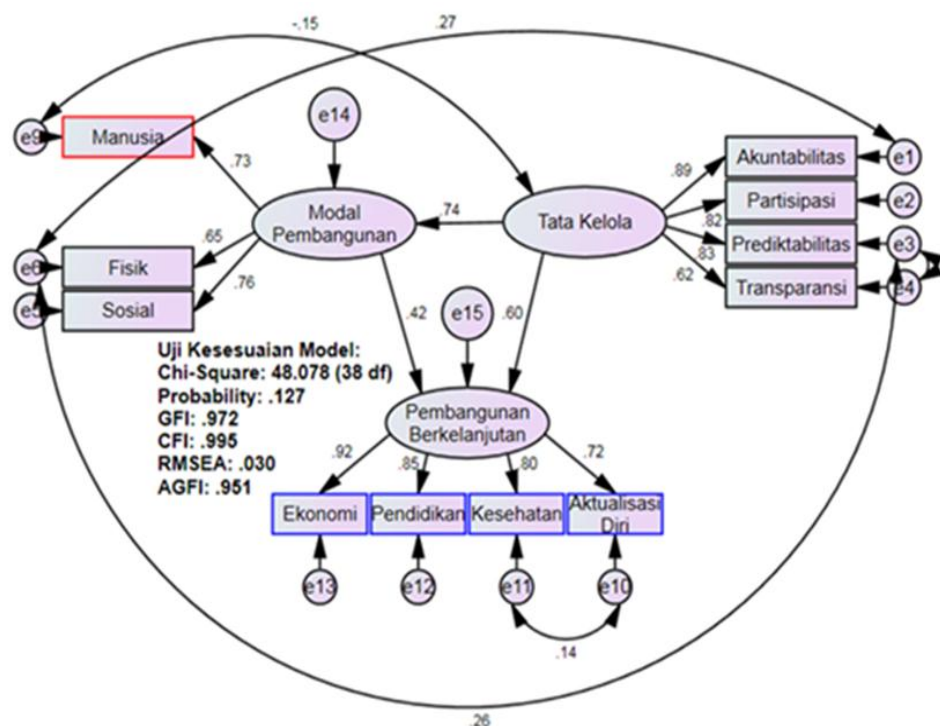


Figure 2. The Model Form after being modified

6. Results

In the development process, there are basically three important elements playing a role, and they should have coordinated with one another. These three elements are the government, the private sector and the community. It is also proportionate, based on the data known that the development capital both in the community and governance has a significant effect on sustainable development. It indicates that there must be synergy between the public, private sector and the community to create sustainable development for making changes and improvements in all fields for the better.

Nevertheless, in fact, the determination of development direction is majorly dominated by the government and the private sector, whilst the community is frequently ignored. For example, the lack of community involvement happens in the event of area development, i.e. in the transfer of land use; from coastal land into shrimp ponds and palm oil plantations. The actors of the land use transfer generally come from the outer side because they have large capital. In such situation, the general public seems to be pushed aside. Plus, cultural poverty is difficult to overcome as the causes are deeply embedded in the pattern of the community life (Nikijuluw, 2001; Tarmizi, 2016; 2017). To handle this, the community can be empowered to increase the income in particular, and sustainable livelihood in general; through public education which uses or increases positive capitals already attached to the communities themselves.

Such community empowerment should be explored through the development capital already found in the community, i.e. social, financial, physical, human, and natural resource capital. In addition to good development capital, cooperation with policymakers is also needed to support and strengthen the community through governance. It should be done in synergy to achieve better and continuous sustainable development. Below is a scheme predicted by model modification that will be carried out.

7. Conclusions and suggestions

7.1. Conclusion

From the results above, it is concluded that simultaneously, development capital and governance have significant and positive effect on development capital. Model modification is formed based on interrelated effects. Sustainable development model was performed through the strengthening of development capital found in the community, in the form of synergistic empowerment with the governance.

7.2. Suggestion

The researcher suggests that the community, the government and private sector should be committed to work together in promoting better sustainable development through empowerment. It can be implemented by development capital coming from the community, which is strengthened, supported and collaborated with the governance.

Future researchers should use more varying indicators and develop other sustainable models, especially for the coastal communities who really need more attention to improve their life quality.

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