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Jurnal
Perspektif Pembiayaan dan Pembangunan Daerah
(Journal of Perspectives of Financing and Regional Development)

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From Editor

Since volume 4 number 4, all articles in the Journal of Perspectives on Financing and Regional Development are published in English version. This is the first step to transform a previous journal version to be an international journal version and related to reach wider readers. In volume 5 number 3 is presented nine articles that come from Jambi University, Padjadjaran University, Ministry of Finance, Ministry of Public Works and Settlement, Agency for Energy and Mineral Resources, Maluku Province, Gorontalo State University, West Sulawesi University, STIPER YAPIM Maros and Hasanuddin University. Hopefully in the next issue can be presented articles with issues and from more diverse circles.

Happy joy reading

Editorial

Regional financial performance evaluation in the Indonesian fiscal decentralization era

Joko Tri Haryanto

Center for Climate Change Financing and Multilateral Policy
Fiscal Policy Agency, Ministry of Finance Republic of Indonesia

Correspondence e-mail: Djohar78@gmail.com

Abstract

Under the decentralization policy, regions have the rights and obligations in arranging of themselves. Then many studies showed positive and negative impacts of fiscal decentralization in Indonesia. Regarding on this issue, this study was conducted in analyzing financial performance under fiscal decentralization. The analytical method used is the ratio indicator degree of fiscal decentralization, financial regional self-sufficiency indicator ratios and harmony indicator ratios of regional budget. From the degree of fiscal decentralization, in Indonesia from 2008 to 2014 has not yet been able to realize the aspects of the region's autonomy. Judging from the distribution per region, most of the regions in Indonesia are in a class of regions with less degree of fiscal decentralization. Meanwhile, indicators of local financial independence in Indonesia from 2008 to 2014 saw a significant increase. From the indicators of harmony expenses is still very dominant from the routine expenditure almost 70% -80% annually. From this resulted, mandatory for local government to continue their improvement of the region's autonomy, especially in terms of funding through a mechanism that does not burden the private and public sectors.

***Keywords**: fiscal decentralization, regional financial performance, degree of fiscal decentralization, independence region, harmonious expenses*

INTRODUCTION

Indonesia has been implementing fiscal decentralization policy since the era of independence. In that period, the government runs the process of fiscal decentralization, particularly from the financial relationship between central and local governments through act No. 1 of 1945 and Act No. 22 of 1948 (Muslianti, 2011). Based on Act No. 1 of 1945, only recognized a few of the autonomous regions which has existed since proclamation, but is still obliged to follow the system established by the state both in terms of setting a local government authority or financial relationship between central and local (Fatimah, 2007). While Act No. 2 of 1948 over the mechanisms governing the financial relationship between central and local governments through *suit post policy* which will allocate a financial contribution to the regions in order to keep its budget balanced (Adisasmita, 2011).

In the New Order era, the government updated policies related to fiscal decentralization, with the approval of Act No. 5 of 1974 on the Principles of Regional Government. Broadly speaking, the Act No. 5 of 1974 are then divided the territory of the Republic of Indonesia become an Autonomous Region and Administrative Region (Subiyantoro, Heru & Singgih Riphat, 2004).

Moreover, to practice fiscal decentralization, then also formed Regional Level I and Level II Region. These regions formed with the terms and conditions of economic capacity, the number of population, area, national defense and security as well as other requirements that allow regions carry out the development, fostering political stability and unity of the nation within the framework of the implementation of regional autonomy, real and responsible (Demartoto, 2007).

Unfortunately, at the end of the New Order era, the spirit of fiscal decentralization and regional autonomy under Act No. 5 of 1974 is actually fading and pose a threat of national disintegration (Simanjuntak, 2015). Therefore the government subsequently issued a policy reform of fiscal decentralization through the enactment of the Act No. 22 of 1999 on Regional Government which has been revised by the Act No. 23 of 2014 and Act No. 25 of 1999 on Financial Balance between Central and Local Government were also revised by the Act No. 33 of 2004 (Gadjong, 2007) .

Reform of fiscal decentralization policy is also coupled with the reform of local financial management, although some observers said that its late if compared to the process which has been run by several other countries, including neighbor countries like Malaysia, Singapore, Philippines and New Zealand which has applied since the early 1970s . However, the area of financial management reform is still needed in order to increase transparency and public accountability in addition to reduce the potential for leakage due to the chaotic administrative system (Mahmudi, 2010).

Implementation of fiscal decentralization and regional autonomy in the reform era also marked by the improvement of the financial relations mechanism within the framework of policy Transfers to Regions, in addition to funding sources such as revenue (PAD), Emergency Fund, Regional Loan, Grant Regional and Concentration Fund and Tasks (Alisjahbana, 2000).

Transfer to Regions mechanism itself consists of the allocation of Fund Balance (Daper), Special Autonomy and Adjustment Fund and the Autonomy Privileges Fund. In the Fund Balance mechanism, the government classified the allocation to Sharing Fund (DBH), General Allocation Fund (DAU) and Special Allocation Fund (DAK) (Supplementary Handbook of The Governance and Regional Development, 2012).

With the policy of fiscal decentralization and regional autonomy that the regions have the authority rights and obligations in arranging and taking care of his own household in spite of the intervention of the central government. This is in accordance with the implementation of the money follows function principle (Zulkarnain, 2014). Based on Act No. 23 of 2014 on Regional Government, all authority has been delegated to the local government unless the authority in the field of fiscal and monetary, defense and security, justice, religion and international relations are still under the authority of the central government.

Devolution to local government under policy of fiscal decentralization and regional autonomy was originally intended to cut through bureaucratic chain of services in order to create the region's autonomy on facing the increased of global competition (Sasana, 2009). Unfortunately, some observers give attention to the potential negative impact of the implementation of fiscal decentralization itself, which is often considered to create: 1) the gap between rich and poor regions; 2) threatening the economic stability due to inefficient macroeconomic policies; 3) reduced efficiency due to less reps legislative branches with weak indicators of public hearing mechanism; and 4) expanding the network of corruption from the center to the regions (Remy Prud'homme in Sugiyanto, 2000).

However, Bahl (2000) remind their additional rules to reduce the negative impact of fiscal decentralization in which the major actors, especially local government fiscal decentralization should always be high in spirit of the competition to be the winner (there must be a champion for fiscal decentralization) from the aspect of public service to the community. The local government should think out of the box in understanding people's aspirations and creating changes in economic structures that promote the common welfare.

Other figures, Barzelay (1991) also support this perception by mentioning the primary mission of fiscal decentralization is to create efficiency and effectiveness in the management of regional resources, improve the quality of public services and the welfare of society and created a space for people to participate in the development process. Thus, the purpose of the creation aspects of the region's autonomy will be realized as well as support the accelerated development of the national economy.

Some research related to the implementation of fiscal decentralization and then support the initial hypothesis. For example, research conducted by Apriesa and Miyasto in 2013 which concluded that the positive effect of fiscal decentralization on economic growth in all regions/cities in Central Java while creating demand for labor is increased. The same thing also expressed by Sasana in 2015 that concluded that fiscal decentralization has a positive direction towards the economic growth rate of all provinces in Indonesia.

The other study was conducted by Muryawan and Sukarsa in 2014 stating that fiscal decentralization has a positive influence on the economic growth of the regions/cities in Bali on financial performance. In the same context, Yuana in 2014 concluded that the ratio of local independence and effectiveness of local positive and significant impact on the economic growth of the regions/cities in East Java.

Unfortunately, despite the positive impact of fiscal decentralization in Indonesia is also considered creating impact of the growing dependence of the regions to central government. It can be seen from the increasing amount of allocation to the Regional Transfer annually. If in 2008 the amount allocated to the Regional Transfer achieve the Rp292,4 trillion in the budget 2016 the amount has been increased to Rp770,2 trillion, with the addition of the allocation of the Village Fund since 2015.

To prove this hypothesis, the study then focused on the problem of calculating aspects the performance of financial management in an era of fiscal decentralization, particularly from the decentralization degree ratio, local financial independence ratio and the harmonious expenditure budget ratio (Suprantiningrum, 2015). In this study, the research question posed is: a) How is the fiscal decentralization degree ratio in Indonesia from year 2008-2014?; b) How is local independence ratio in Indonesia in the era of fiscal decentralization in 2008-2014?; c) How is the harmonious expenditure budget ratio of all regions in Indonesia in 2008-2014?

Due some constraint reagarding on the data supply related to APBD realization, this research only use data from year 2008 until 2014 got from the Dircetorate General Fiscal Balance, Ministry of Finance. Another limitation of this research is that the variables used are only APBD consist of revenue and expenditure. We do not analyze the quality variables of government spending.

Based on the Minister of Finance statement in the book Handbook Supplementary Administration of Government and Regional Development insists that the framework of regional autonomy and fiscal decentralization has given the dimensions of clear guidelines for local governments to run the administration and services as well as

financial management based on the principles of transparency, participation and accountability. Through the implementation of regional autonomy and fiscal decentralization the inclusive development should prioritize the development of a territorial dimension to the center of growth.

He also reminded that the implementation of regional autonomy and fiscal decentralization has changed the pattern of administration and fiscal management in Indonesia which was originally to be centralized to decentralized. The immediate implication of this policy is the area given discretion to manage expenditure in accordance with the needs and priorities of each region. As a consequence, the need for financing funds increased significantly to finance the implementation of the functions that have been delegated to the regions. For this reason the central government runs the mechanism of regional autonomy and fiscal decentralization based on the money follows function principle.

Regional autonomy and fiscal decentralization on the other side is also expected to improve the quality of public services. The improvement is a major agenda that cannot be bargained back because it is one indicator of the region readiness in the face of globalization which is full of competition and liberalism, import flows, investment, labor and culture (Mahadika, 2014). Besides the improvement of internal governance (knowledge based society) and society are increasingly numerous and has various demands (demanding community) (Mardiasmo, 2004).

Fiscal decentralization by Bird and Vaillancourt in 2000, is an urgent necessity to consider aspects such as: 1) an embodiment of the function and role of the modern state that more emphasis to promote the general welfare (welfare state); 2) the presence of regional autonomy can also be approached from a political perspective in which the country become an organization of power in which there are the corridors of power at both the superstructure and infrastructure tend to abuse authority so decentralization is expected to prevent it; 3) from the perspective of modern government management of the fiscal decentralization is the embodiment of the demands of efficiency and effectiveness of services to the community in order to realize common prosperity.

The efficiency and effectiveness of public services is by Abimanyu and Megantara in 2009 is also said to be the key to the success in improving economic growth. Explained that the decision-making at the level of local government will be listened to diversify the local options and more useful for the efficiency of allocation. Efficiency is also supporting the increased of productivity which will ultimately result in the rapid economic growth as mentioned by Kuznets in Pressman (2000). This productivity role even exceeded the role of population in creating growth aspects in a country.

In Soleh and Suripto, 2011; 2-4, regional financial performance is the level of achievement from the implementation of an activity/program /policy in achieving the goals, objectives, mission and vision of the organization as stated in the formulation of the strategic planning.

Therefore the performance of the local government can be defined as a picture of the level of achievement of the results of the implementation of an activity/program /policy of the local government in realizing the goals, objectives, mission and vision of the region described in the regional planning documentation (Adha & Ibrahim, 2013).

Meanwhile, performance analysis of financial regional is an attempt to identify the characteristics of finance based on financial statements that are available. As for some of the characteristics of the available financial translated into several performance

measures including independence ratio, effectiveness ratio, efficiency ratio, growth ratio and harmonious activity ratio (Hamzah, 2008 in Yuana, 2014).

Based on the size, the creation indication aspects of the region's autonomy can be explained. In Halim, (2007) stated that the main characteristic of a region capable on implementing autonomy is: a) The existence of local financial capacity, which means the region has the ability and authority to explore the sources of finance, manage and use its own funds to finance the governance and development; b) Dependence on central assistance should be as minimal as possible, therefore total revenue must be the biggest financial source supported by the policies of financial balance between central and local governments.

In his statement, Halim also noted that both of these traits will affect the pattern of the relationship between central and local governments. Conceptually, the pattern of the relationship between central and local governments must comply with regional capabilities in the implementation of government finance. Therefore, the ability to see the region capability in financing the governance, one of the best approach is through the use of regional financial performance.

Unfortunately, the used of regional financial performance indicators are not too widely used in government, though familiar used in the private sector. Some of the constraints faced by the used of performance indicators of regional financial institutions including government (Suprantiningrum, 2015): a) Lack of financial statements to local government whose nature and scope is different from the presentation of financial statements by corporate institutions for commercial purposes; b) During the budgeting partly still done by balancing the incremental budget which is the amount of each component of income and expenditure is calculated by raising a certain percentage (usually based on the rate of inflation). The result is often caused difficulties in the calculation of financial ratios budget; c) Successes budget in the area of financial management accountability is more important to the achievement of the target resulting in less attention to changes in the composition and structure of its budget.

RESEARCH METHOD

In general, the research approach used in this study is a quantitative approach by comparing some financial data region and calculated to be the amount of the ratio. This ratio will be used as the basis of analysis in evaluating aspects of the creation of the region's autonomy in the era of regional autonomy and fiscal decentralization. The type of data used is largely a secondary data collected from official agencies data provider that is the Directorate General of Fiscal Balance, Ministry of Finance related to financial data regions within the budget.

The analytical method used in this research is descriptive method embodied in the quantities of the financial performance of ratio indicators. The operational definition of the variables that used:

a) **The decentralization degree** shows a comparison between total revenue and total reception region. This ratio indicates the degree of contribution of total revenue to the structure of revenue and expenditure budget. To calculate the decentralization degree obtained from the formula:

$$Fiscal\ Decentralization\ Degree(DDFII) = \frac{Total\ \text{Re}venue}{Total\ \text{Re}gional\ Expenditure} x\,100\%$$

$$Fiscal\ Decentralization\ Degree(DDFII) = \frac{Total\ \text{Re}venue}{Total\ \text{Re}gional\ Expenditure} x\ 100\%$$

b) **Local independence ratio** demonstrates the ability of local governments to finance its own activities of governance, development and services to people who have paid taxes and levies as a source of revenue from total revenue (PAD). The ratio of local independence is calculated by a formula;

$$Local\ Financial\ Independent\ Ratio = \frac{Local\ \text{Re}venue}{Total\ Tranfer\ to\ \text{Re}gion} x\ 100\%$$

c) **Harmonious local expenditures** ratio illustrate how local governments prioritize the allocation to the routine operational expenditure and development expenditure. The ratio is calculated based on formula:

$$Harmonious\ Local\ Routine\ Expenditure\ Ratio = \frac{Toal\ Routine\ Expenditure}{Total\ Local\ Expenditure} x\ 100\%$$

$$Harmonious\ Operational\ Expenditure\ Ratio = \frac{Toal\ Operational\ Expenditure}{Total\ Local\ Expenditure} x\ 100\%$$

The population of this study based on data reported budget all regions in Indonesia from 2008-2014. The first step taken was to collect data on Indonesian local financial capacity to support the implementation of fiscal decentralization. Then do the grouping of data and information obtained as a basis for the operationalization of the variables to be measured.

From the results of the ratios presented, the final stage is to draw conclusions on the financial performance of fiscal decentralization.

RESULT AND DISCUSSION

The result of the calculation using the fiscal decentralization degree indicators can be seen in Table 1 and Table 2.

Table 1. Calculation of degree of decentralization

	DDF I (%)	DDF II (%)
2008	17,2	17,6
2009	17,2	16,7
2010	18,1	18,5
2011	19,9	21,1
2012	20,4	21,3
2013	22,3	22,6
2014	22,6	21,1

Source: Ministry of Finance, 2015, data is processed

Table 1 illustrates the overall decentralization degree indicators in regions in Indonesia from 2008 to 2014. DDF I indicator is calculated using the formula Total Revenue/Total Revenue x 100% while DDF indicator II is calculated using the formula Total Revenue/Total Expenditure x 100%. Accordingly, DDF I describe the contribution of Total Revenue in the overall revenue budget in the region. While DDF II illustrate how much contribution of revenue in the expenditure budget in the fiscal area.

Based on Halim (2007), mentioned several criteria depiction degree of decentralization in the area as mentioned in Table 1.

Table 2. Regional decentralization degree criteria

Decentralization Ability	Decentralization Degree Ratio (%)
Very Good	> 50
Good	25-50
Less Good	10-25
Not Good	<10

Source: Halim, 2007

The results of the analysis in Table 1 compared to the criteria in Table 2 illustrates that fiscal decentralization in Indonesia from 2008 to 2014 has not yet been able to realize aspects of the region's autonomy. This can be represented by the ratio of the degree of fiscal decentralization is still worth 'less good' (10-25) from 2008 to 2014 both in terms of contribution to regional income (DDF I) and the ability to finance budget expenditure (DDF II).

However, the positive impression conveyed is that there is a consistent increase every year of indicators DDF I and DDF II. If in 2008 the amount of DDF I ranges from 17.2% while DDF II at 17.6%, then in 2011 the amount risen to 19.9% for the DDF I and 21.2% for the DDF II. In 2014, both indicators had increased to 22.6% for the DDF I and 21.1% for the DDF II.

Interestingly, the difference between the amount of DDF I and DDF II each year is relatively not too significant, even in 2014, DDF I value greater than DDF II. It can be concluded that in 2014, the local revenue's role in supporting regional income greater than the contribution of local revenue contribution towards expenditure budget, although it may also be due to the savings made area.

The same analysis can be applied to a case-by region. Based on Table 3, fiscal decentralization degree has a very diverse value in each region in Indonesia. The conditions and reflects the diversity of fiscal regions that have been the basis for government policy making. Generally, the analysis is based on Table 3 are juxtaposed with the criteria in Table 2 are as follows:

1. Regions with 'very good' criteria of fiscal decentralization degree: Jakarta;
2. Regions with 'good' criteria of fiscal decentralization degree: West Java, Banten, East Java and Bali;
3. Regions with 'less good' criteria of fiscal decentralization degree: North Sumatra, West Sumatra, Riau, Riau Islands, Jambi, South Sumatra, Bangka Belitung, Lampung, Central Java, Yogyakarta, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, South Sulawesi, West Sulawesi and West Nusa Tenggara;
4. Regions with 'not good' criteria of fiscal decentralization degree: NAD, Bengkulu, North Sulawesi, Gorontalo, Sulawesi Tenggara, Central Sulawesi, East Nusa Tenggara, Maluku, North Maluku, Papua and West Papua.

Most of the regions in Indonesia are in category class of 'less good' fiscal decentralization degree. However, regions that need attention are regions with 'not good' category of fiscal decentralization which the area is still very dependent on central government in running the economy and its development.

Table 3. Calculation of decentralization accumulated regional degree Year 2008-2014

	2008		2009		2010		2011		2012		2013		2014	
	DDF I	DDF II	DDF I	DDF II	DDF I	DDF II	DDF I	DDF II	DDF I	DDF II	DDF I	DDF II	DDF I	DDF II
NAD	7,0	7,3	7,4	6,4	6,7	6,5	6,4	6,5	6,9	7,2	8,9	8,9	8,2	7,6
Sumut	17,3	17,8	15,6	15,3	17,9	18,1	20,9	21,2	20,1	20,2	19,7	20,0	21,2	20,6
Sumbar	13,0	13,2	12,1	12,2	13,9	13,2	14,7	15,2	13,6	13,6	13,4	14,6	14,5	13,5
Riau	15,6	16,7	17,2	13,6	14,4	15,6	14,3	16,7	15,3	16,7	15,9	15,1	15,9	13,3
Kepri	18,4	21,3	18,4	17,0	15,9	17,2	19,1	17,9	18,0	18,5	16,2	16,0	18,7	16,3
Jambi	14,0	13,4	11,8	10,9	12,3	13,0	14,7	15,8	12,8	13,4	12,9	12,4	12,2	11,2
Sumsel	12,8	12,6	12,6	12,5	12,9	14,0	14,6	15,5	14,3	15,0	14,7	14,1	14,1	13,9
Babel	13,6	14,7	13,1	12,0	15,6	14,1	15,1	16,5	14,0	14,1	15,2	14,8	13,9	12,6
Bengkul	8,8	8,5	9,2	9,1	9,3	9,4	9,8	10,4	10,0	10,3	10,7	11,0	9,9	9,4
Lampung	13,6	13,7	12,5	12,6	15,1	15,6	14,2	14,5	15,2	15,1	15,8	15,7	15,7	15,1
Jakarta	54,4	65,5	55,0	54,3	56,0	59,8	63,0	67,5	62,3	69,8	68,0	70,1	61,1	61,0
Jabar	23,6	24,6	22,3	22,6	25,1	25,2	27,3	28,3	27,6	28,4	30,1	30,7	32,5	30,3
Banten	29,6	31,3	29,1	29,6	30,4	31,5	35,2	36,9	35,8	37,4	37,5	39,8	41,0	37,1
Jateng	19,4	19,1	20,1	20,3	21,1	21,5	20,6	21,1	21,3	21,9	23,1	24,0	22,6	21,3
DIY	20,3	19,6	21,6	21,3	22,0	22,0	22,9	23,5	23,7	25,2	25,7	27,3	24,2	22,8
Jatim	22,6	22,9	22,7	22,3	23,6	23,6	26,5	27,1	25,4	26,2	27,5	28,4	26,7	25,2
Kalbar	10,3	10,3	9,9	9,7	11,1	11,2	13,7	14,4	13,7	13,8	14,2	14,3	15,5	14,9
Kalteng	7,9	7,6	7,9	7,6	8,9	9,0	11,2	12,3	12,1	12,8	12,7	12,9	12,7	11,9
Kalsel	17,8	18,5	14,5	15,0	17,2	16,7	19,5	22,4	19,9	23,4	23,3	23,8	22,6	19,6
Kaltim	12,3	13,1	15,4	13,7	14,3	14,8	19,2	23,7	19,6	22,2	22,2	19,8	21,0	16,5
Sulut	9,2	9,5	8,1	8,5	8,9	9,3	5,7	7,2	4,5	5,7	4,3	4,6	4,0	2,7
Gorontalo	7,6	7,7	8,3	7,9	8,5	8,9	10,0	10,3	11,2	11,4	12,6	13,6	12,9	12,3
Sulteng	7,5	7,8	8,4	8,2	9,0	9,2	8,1	8,1	9,9	10,0	9,9	9,8	11,7	11,2
Sulsel	14,3	13,8	14,2	13,5	14,5	15,1	9,7	10,1	10,5	10,6	10,7	10,8	10,8	10,6
Sulbar	5,1	5,0	4,6	4,3	5,0	5,2	15,5	16,1	16,4	16,8	17,9	18,1	18,5	17,9
Sultra	8,6	8,7	6,5	6,3	8,3	8,4	5,5	5,7	6,1	6,4	7,1	7,3	7,6	7,3
Bali	30,5	32,8	31,8	31,9	34,6	36,1	38,9	40,7	38,5	40,0	41,8	43,5	40,0	36,4
NTB	11,0	11,1	11,4	11,6	11,5	11,6	15,6	15,9	13,3	13,5	14,1	14,2	15,8	15,4
NTT	7,1	6,9	6,9	7,0	7,2	7,2	7,4	7,6	7,9	8,0	8,3	8,6	9,0	8,7
Maluku	5,9	5,8	6,0	5,6	5,3	5,5	5,8	6,0	6,0	6,2	7,2	7,5	7,6	7,3
Malut	6,5	6,4	5,2	4,8	5,8	5,9	6,8	7,4	7,3	7,3	8,4	8,4	8,0	7,8
Papua	4,3	4,3	4,4	4,6	4,0	4,1	3,5	3,7	5,2	5,2	4,4	4,6	4,1	4,0
P. Brt	3,5	3,4	2,8	2,8	3,1	3,2	2,9	3,0	3,3	3,2	3,4	3,9	3,6	3,4

Source: Ministry of Finance, 2015, data is processed

NAD Province, Papua and West Papua are some examples of areas that fall into the category of 'not good' fiscal decentralization degree, even though it was getting extra special autonomy fund allocations. Thus, in case the government needs to do deeper evaluation of the effectiveness and benefits of additional special allocation to the creation of self-reliance in the area. Anything else you need to get serious attention is precisely these areas area which has a wealth of natural resources (SDA) is abundant, especially of oil and gas.

Generally an indicator of local financial independence is defined as the ability of local finance in funding independently of government activities, public service and development. Based on this formula, the list of areas with local financial independence indicators can be seen in Figure 1.

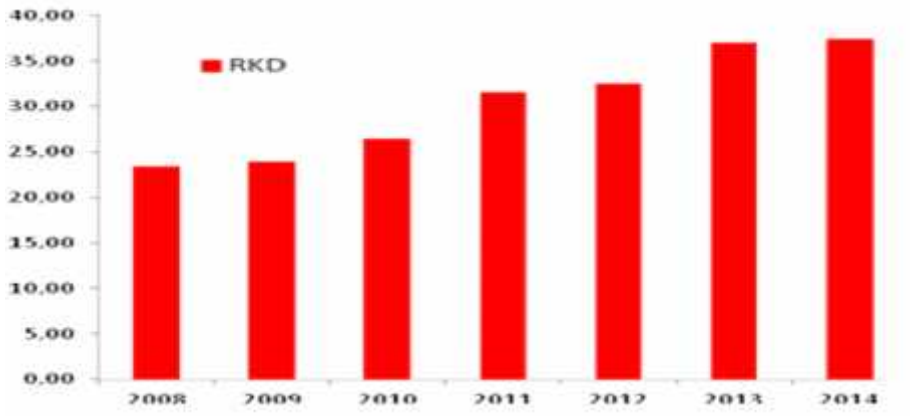

Figure 1. Calculation of regional independence indicators
Source: Ministry of Finance, 2015, data is processed

As Figure 1 shows that the local financial independence ratio in Indonesia continues to increase significantly each year from 2008 to 2014.

Table 4. Interval regional financial independence

Decentralization Ability	Regional Financial Independence Ratio (%)	Pattern Correlation
Very Low	0-25	Instructive
Low	25-50	Consultative
Standard	50-75	Participatory
High	75-100	Discretionary

Source: Halim, 2007

If in 2008 the local financial independence ratio was approximately 23.45%, increased to 31.67% in 2011 and 37.47% in 2014. To better interpret, criteria that used is based on the local financial independence (Halim, 2007) that presented in Table 4.

Based on these criteria, the general implementation of the fiscal decentralization in Indonesia is still in the consultative criteria from 2008 to 2014. This indicates that the intervention of the central government began to diminish in providing assistance to the region and on the other hand, the ability of local financial independence also began to rise although it has not been able to migrate into participatory criteria. Increasing numbers of local financial independence significantly occurred in 2012/2013 increased from 32.59% to 37.10%.

In terms of independency ratio per region, based on Table 5, it can be seen several classifications of regions, namely:

1) Region with the local financial independence ratio of discretionary: DKI Jakarta;
2) Regions with the local financial independence ratio of participatory: West Java, Banten and Bali;
3) Regions with local financial independence ratio of consultative: North Sumatra, Central Java, Yogyakarta, East Java, South Kalimantan and South Sulawesi;
4) Regions with local financial independence ratio of instructive: NAD, West Sumatera, Riau, Riau Islands, Jambi, South Sumatra, Bangka Belitung, Lampung, West Kalimantan, Central Kalimantan, East Kalimantan, North Sulawesi,

Gorontalo, Central Sulawesi, West Sulawesi, Southeast Sulawesi, West Nusa Tenggara, East Nusa Tenggara, Maluku, North Maluku, Papua and West Papua.

Table 5. Calculation of per regional financial independence

Province	2008	2009	2010	2011	2012	2013	2014
NAD	10,42	11,36	10,63	10,58	12,23	14,95	15,42
Sumut	23,17	21,03	25,09	32,43	32,46	31,72	34,93
Sumbar	16,48	15,64	18,82	21,03	18,76	18,73	20,12
Riau	19,21	22,11	17,99	18,11	20,39	21,36	21,42
Kepri	24,40	25,73	20,61	26,33	23,95	21,52	25,85
Jambi	17,87	14,61	15,57	19,82	16,93	17,11	16,07
Sumsel	15,34	15,56	16,32	20,16	19,68	20,35	19,08
Babel	16,72	16,05	20,30	20,20	18,92	21,02	18,31
Bengkulu	11,20	11,13	11,95	13,07	12,73	13,60	12,53
Lampung	16,74	15,94	21,30	20,93	22,33	23,60	23,41
DKI Jakarta	120,14	122,54	135,17	194,83	190,75	286,04	222,62
Jabar	35,53	34,69	41,72	52,22	53,81	63,53	64,79
Banten	48,47	45,72	51,43	77,15	79,33	86,80	96,13
Jateng	26,75	28,05	31,95	35,32	37,16	41,85	39,44
DIY	29,99	31,07	34,30	40,17	41,15	48,02	45,28
Jatim	32,35	33,34	38,80	48,25	45,51	51,68	48,43
Kalbar	12,23	12,17	14,68	18,71	18,61	19,59	21,41
Kalteng	9,49	9,28	10,78	14,13	15,35	16,66	16,56
Kalsel	23,71	19,14	24,89	29,60	31,51	38,00	37,03
Kaltim	15,66	21,02	18,77	27,63	29,12	34,92	32,90
Sulut	11,23	9,97	11,88	14,00	14,47	16,76	17,20
Gorontalo	9,29	9,94	11,16	11,14	12,57	12,72	15,12
Sulteng	8,73	10,17	11,54	12,99	13,69	13,92	14,15
Sulsel	18,46	18,72	21,09	24,57	24,55	27,69	28,69
Sulbar	5,61	5,09	6,33	7,09	7,34	8,76	9,27
Sultra	9,98	7,54	10,20	10,01	10,19	12,42	12,75
Bali	51,13	55,55	68,24	88,83	87,00	99,82	89,20
NTB	13,00	14,16	14,86	22,88	18,38	19,98	23,08
NTT	7,96	7,77	8,74	9,45	9,79	10,41	11,46
Maluku	6,53	7,15	6,65	7,29	7,09	8,61	9,03
Malut	7,46	5,90	6,87	8,58	8,56	9,92	9,47
Papua	6,76	6,85	5,77	5,09	7,52	6,58	6,08
Papua Brt	4,71	4,76	4,95	4,45	4,98	4,87	5,40

Source: Ministry of Finance, 2015, data is processed

For areas with discretionary and participatory criteria means the ratio of local financial independence is already relatively high and considered capable of reducing dependence on financial aid from the central government. Which is still a problem are the regions that are in consultative and instructive criteria, considering these areas did not have financial independence ratio adequate area.

The inadequacy of local financial independence ratios can be created either as a result of independent funding sources are insufficient or expenditure burden that is too large. Most regions still classified as having financial independence ratio consultative and instructive also required a deeper attention from governments. Moreover, the age of the implementation of fiscal decentralization and regional autonomy in Indonesia which has entered its 15th year since its implementation officially dated January 1st of 2001.

Harmonious local expenditures indicators are used as a benchmark for the region in an effort to prioritize the allocation of budget funds optimally both for purchases that are routine operational and development spending in the region. Generally there are no indicators that have become a benchmark of how large a percentage allocation routine

expenditure and development that is required to support the implementation of economic growth in the region.

Based on the theory of Keynes, consumption growth also had an impact, but instead of basing the classical theory of economic growth, which is capable of ensuring sustainable economic growth is the growth that comes from investments or productive economic activity. Analysis results from the calculation of the local harmonious expenditures indicators nationwide from 2008 to 2014 is shown in Figure 2.

Figure 2 showed that the comparison of recurrent expenditure allocation nationally is still very dominating than the allocation of development expenditure from 2008 to 2014. Thus it can be concluded that the source of economic growth in the region is still very encouraged by the activities of a consumptive. This can be evidenced by the amount of harmonious recurrent expenditure (KBR) is in the range of 70% -80% annually.

While the amount of harmonious development spending (KBP) is not more than 20% -30% of the rest. One positive thing that came up was the trend of decreasing of routine expenditure allocation in each region nationwide accompanied by increase in development expenditure allocation adequately. In the future the government must ensure this movement to continue running and continue to rise.

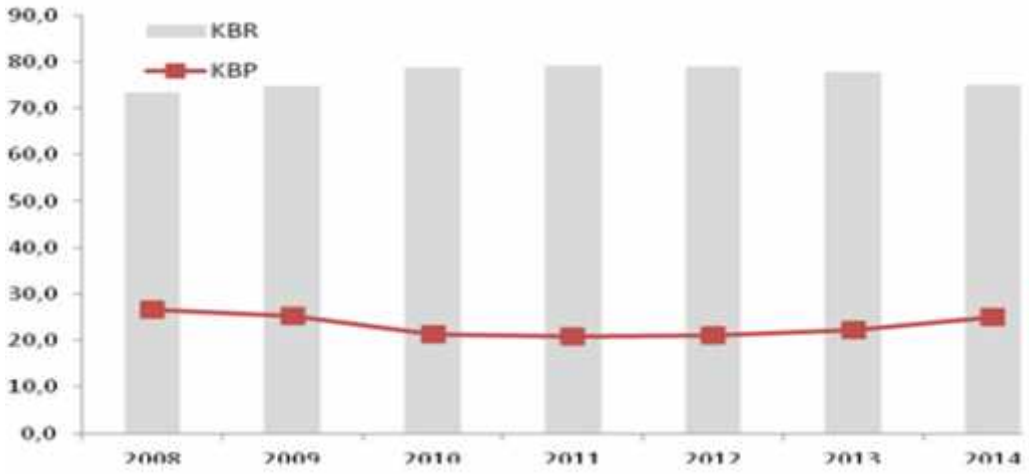

Figure 2. Calculation of adjusted local expenditure indicator
Source: Ministry of Finance, 2015, processed data

Interesting results of analysis came from the calculation of the harmonious spending indicators in each region from 2008 to 2014. The deeper explanation can be described as follows:

1) On average, the amount of the allocation routine expenditure in 2008 is 71.35%, increased to 73.00% in 2009 and 77.06% in 2010. In 2011, the average amount of allocation routine expenditure increased slightly to 77.65% and reached its peak in 2012. that number began to drop in 2013 to 77.06% and 75.54% in 2014;
2) Meanwhile, the average rate for the amount of the allocation of development spending in 2008 to reach 28.70%, dropped in 2009 to 27.16% and 22.98% in 2010. The magnitude was stable in 2011 at 22, 39%, then fell again to 21.72% in 2012, increased to 23.11% in 2013 and 24.51% in 2014;
3) Some regions recorded stay consistent in the category of regions with relatively high allocation of recurrent expenditure in the years 2008 to 2014. These areas include:

North Sumatra, West Sumatra, Lampung, West Java, Central Java, Yogyakarta , East Java, South Sulawesi, Bali, West Nusa Tenggara and East Nusa Tenggara;

4) Especially for Jakarta and Banten, occurred saving schemes in the allocation of expenditures. DKI Jakarta in 2008 and 2009 was recorded as one of the areas with the largest routine budget allocation, while Banten was recorded in 2008 and 2011 still has a high ratio of recurrent expenditure. But since 2010 for Jakarta, and 2012 for Banten, the allocation of recurrent expenditure in its budget experienced a pattern of steady decline until 2014;
5) For development expenditure allocation, some areas have a good track record from 2008 to 2014 include: Riau, Jambi, South Sumatra, West Kalimantan, South Kalimantan, East Kalimantan, Central Kalimantan, Southeast Sulawesi, North Maluku, Papua and West Papua;

CONCLUSIONS AND RECOMMENDATION

Conclusions

From the result of fiscal decentralization degree analysis, it is known that the implementation of the fiscal decentralization in Indonesia from 2008 to 2014 has not yet been able to realize the aspects of the region's autonomy. This can be represented by the degree of fiscal decentralization ratio which is still worth less good (10-25) from 2008 to 2014 both in terms of contribution to regional income (DDF I) and the ability to finance budget expenditure (DDF II). Positive impression conveyed is that there is a consistent increase every year of indicators DDF I and DDF II.

Based on the distribution per region, most of the regions in Indonesia are in a class of regions with less good degree of fiscal decentralization. However, the areas that need more attention are in the ‘not good’ fiscal decentralization degree category which the area is still very dependent on central government in running the economy and its development. NAD Province, Papua and West Papua are some examples of regions that included into the ‘not good’ degree of fiscal decentralization category, even though it was getting extra special autonomy fund allocations.

Meanwhile, from local financial independence indicators in Indonesia, from 2008 to 2014 there was a significant increase. Generally fiscal decentralization in Indonesia is still in the consultative criteria from year 2008 to year 2014. This indicates that the intervention of the central government began to diminish in providing assistance to the region and on the other hand, the ability of local financial independence also began to increase, although not able to migrate into participatory criteria.

One thing that is still a problem is the regions that are in consultative and instructive criteria, considering these regions are considered not to have adequate local financial independence ratio. The inadequacy of local financial independence ratios can be created either as a result of independent funding sources are insufficient or expenditure burden that is too large. Most regions still classified as having consultative and instructive financial independence ratio also required a deeper attention from the governments.

From the harmonious expenditures indicator, comparison of local expense allocation routine still dominates compared to the allocation of development expenditure from 2008 to 2014. Thus it can be concluded that the source of economic growth in the region is still very encouraged by the activities of a consumptive.

Recommendations

As recommendation, if it were mandatory for local authorities to continue to improve aspects of the region's autonomy, especially in terms of funding through a mechanism that does not burden the private and public sectors. Some of the things that have made the regional government actually felt burdensome despite the impact of income in the short term.

In this case must also involve the participation of other stakeholders in public hearings related to the imposition of levies and taxes in the area. Meanwhile, for the existing business in the region, awareness of the importance of contributing significantly also need to continue to be raised either through existing mechanisms or voluntary.

Academics and universities in the regions can also contribute through the implementation of assessments that are implementable and can be applied directly in the community not only at the theoretical level. Colleges inside the regions can also make their area as the best vehicle in practicing the students before they would later plunge in the real world.

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The geothermal potentials for electric development in Maluku Province

Vijaya Isnaniawardhani[1]; Emi Sukiyah[1]; Adjat Sudradjat[1]; Martha Magdalena Nanlohy[2]

[1] Faculty of Engineering Geology, Padjadjaran University
[2] Agency for Energy and Mineral Resources, Maluku Province

Corresponding e-mail: vijaya.isnania@unpad.ac.id

Abstract.
The characteristic of small to medium size islands is the limited amount of natural resources for electric generation. Presently the needs of energy in Maluku Province are supplied by the diesel generation units. The electricity distributes through an isolated grid system of each island. There are 10 separate systems in Maluku Province, namely Ambon, Namlea, Tual, Saumlaki, Mako, Piru, Bula, Masohi, Dobo and Langgur. From the geothermal point of view this condition is suitable because the nature of the generation is small to medium and the locations are dispersed. The geological condition of Maluku Province is conducive for the formation of geothermal resources. The advanced utilization of geothermal energy in Maluku Province is in Tulehu located about 8 kilometers NE of Ambon. It is expected that 60 MW electric will be produced at the first stage in 2019. A total of 100 MW resources were estimated. Other places of geothermal potentials are Lauke and Tawen both located in Ambon Island with the potentials of 25 MW respectively. In Oma Haruku, Saparua and Nusa Laut the geothermal potentials were estimated to be 25 MW each. The total amount of geothermal energy in Maluku Province is thus, 225 MW which will contribute significantly to the needs of projected 184 MW in the year 2025.

***Keywords**: Maluku Province, geothermal energy, suitable, dispersed, conducive*

INTRODUCTION

The increasing needs for electricity

The electricity demands in Maluku Province is constantly increasing in line with the progressing development and the number of population. Annual electricity demands increase about 7.1% in respon to the economic growth of 2.9% and population of 2.4% (Jarman 2012). Presently electricity supply comes out from diesel generation units numbering to 42 which distribute in many islands. There are ten seperate electricity distribution grid systems in each island, namely Ambon, Namlea, Tual, Saumlaki, Mako, Piru, Bula, Masohi, Dobo and Langgur.

The electrification in Maluku Province is 54%, in which the villages have been 82.1% covered. The waiting list for the request of electricity outnumbered to be 1.2 MW (PLN Website, 2015). These figures indicate that the demand for electricity is still high, particularly to cover the whole province which at peresent only almost half of the area.

The characteristic of small and medium size islands is lack of energy resources in particular the hydropower which is quite natural because of the size of the island. However other alternative energy might be available, among others solar and wind energy and the ocean thermal energy conversion (OTEC). The technology of the the first two are readily operationally marketed. Solar panels are suitable and handy for isolated area. Small island with limited number of population might enjoy the benefit of solar energy. However all those energy resources need an intesive maintenance, which local people might always unable to offer.

In this particular case, the islands in Maluku province has the advantage of the potentials geothermal resources, for the following reasons: a) The island are located along the volcanic belt extending from the South to the North; b) The belt covers almost the entire Province; c) The dispersed location of the geothermal potentials optimized the distribution grid. The present isolated and separated grid is most suitable for geothermal energy in Maluku Province.

The dispersed location of the islands

Maluku Province consists of small and medium size island. The administration was established in 1999 when the proper Maluku Province was developed into two provinces namely North Maluku and Maluku. The proper Maluku Province was established in 1959. The biggest Island in Maluku Province is Seram with the length of about 500 kilometer while the width is about 100 kilometer. Next to Seram is Buru with elliptic shape with the length of 175 kilometer and width of 150 kilometers. Topographically these two islands are mountainous, therefore the micro hydropower might be possible to produce (Figure 1).

The other big size island is Aru Island with the 250 kilometers long and 100 kilometer wide. Finally the included in the big size island is Tanimbar Island measuring about 150 km long and 50 kilometers wide. These two islands are flat because it is built by the uplifted coral reef.

Graph 1. Maluku Province consists of big and small islands.

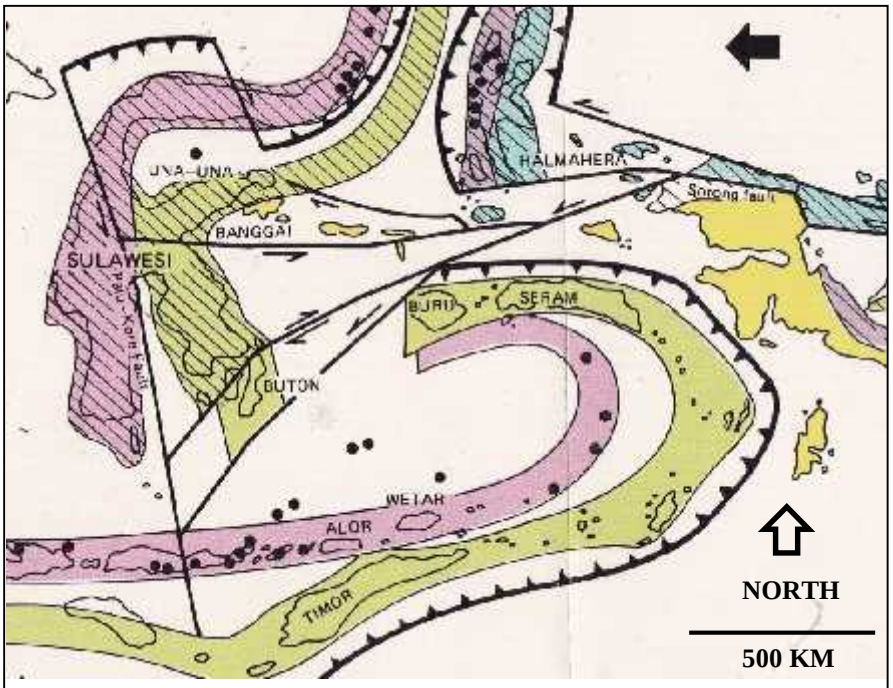
Note: The territory of the Province is indicated by deep blue color
Source: website Maluku Province.

Kai Island consisting of two groups namely Kai Kecil and Kai Besar. Kai Besar has a particular long and thin shape with the longest axis of about 125 kilometer while the width is around 20 kilometers. This particular shape reflects the island was tectonically pressed forming a hilly East side of the island. This characteristic is completely different with Kai Kecil which consists of several island, all are topographically flat. The tectonic setting in Kai Island explain suc a diferences.

GEOLOGIC SETTING

General geology

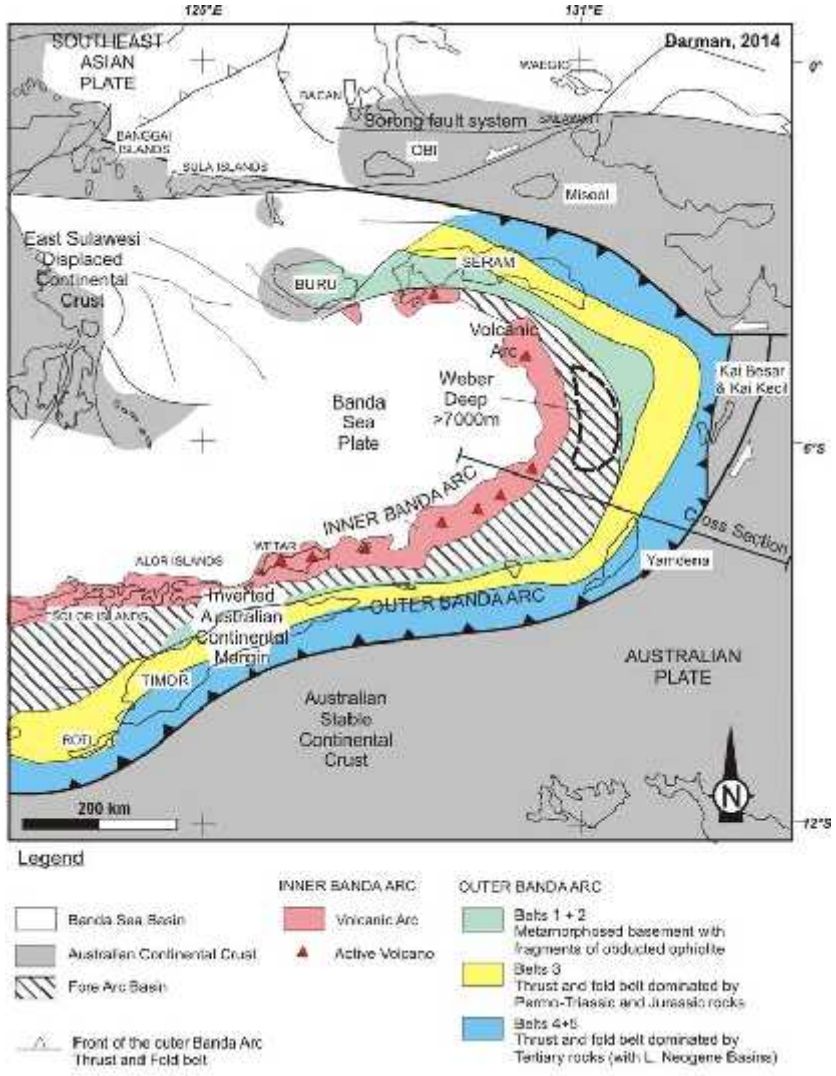
Maluku Province occupies a unique position in the Indonesian geological structure. The volcanic belt bends to the North forming a curvilinear. The volcanoes are located along the line extending from the south to the North. To the East of the line the area consists of stable continental crust of Sahul shelf where Aru Islands is located. To the West the row is paired with the deep sea of Banda Basin. The extraordinary depth of more than 7,000 meters locates in this basin known as Weber Deep.



Legend:
Purple is the volcanic arc with old volcanoes in hachured area, greenish yellow Tertiary subduction zone with old rock assemblages in hachured area, blue represents Late Tertiary subduction zone

Graph 2. The unique geological structure of Maluku Province with curving volcanic arc flanked by deep sea.(Source: Katili, 1985).

Darman et al. (2012) divided the structural element of Maluku into six units (Graph 3): 1) The Australian continental unit represented by Sahul Shelf; 2) Dynamic belt with thrusting and folding; 3) The Mesozoic thrusting and foldings; 4) The metamorphosed continental rocks mixed with obducted ophiolite fragments; 5) The row of volcanoes; 6) The volcanic arc flanked by deep sea.



Graph 3. The tectonic setting and geologic condition of Maluku Province and its surroundings prepared by Darman, 2014, based on Smet's work, 1999.

Those structural elements can be simplified into four groups identifying their position and in the light of plate tectonics as follows: 1) The trapped oceanic plate of Banda Sea; 2) The magmatic belt represented by a row of volcanoes or the Inner Banda Arc; 3) The squeezed Mesozoic and Tertiary sediments with metamorphosed continental basement rocks and fragments of obducted ophiolite; 4) The stable continental plate of Sahul Shelf.

The position of the tectonic sequence seems to inverted, namely the oceanic plate of Banda Sea is obducted below the continental arc. This position resulted in the uplifting of the mixed materials of Mesozoic, Tertiary, metamorphosed continental basement and the fragments of ophiolites. In the normal situation the assemblage might represent the melange where mixed of rocks are deposited in the flank of the subduction trough or in this case the deep sea of Weber. Because of this abnormality, Darman (2012) introduced the term "inverted Australian continental margin."

Volcanic arc of Maluku

In terms of geothermal potentials, the Volcano Islands which were formed by the volcanic activities are very conducive. The topography of the island resembles the cone of a volcano, except Wetar Island where composite volcano was formed. The locations of volcanoes in Maluku Province are the continuation of the row of volcanoes in Java and Nusa Tenggara West and East. Therefore the row is known as Sunda-Banda volcanic arc.

In Maluku Province the row begins with Wetar in South and followed by Romang, Damar, Teon, Nila, Serua, Manuk, Banda Api, Nusa Laut, Saparua, Haruku and finally Ambon. It extends about 1.600 kilometer long and about 60 kilometer wide. Although parts of the arc are submarine there are at least nine volcanoes located in the island which are potential for geothermal development.

Both the edges of the volcanic arc compose of old volcanic rocks of Lower Pleistocene in age, and getting younger to the center. Banda Api volcano is the youngest compared to Teon, Nila Serua and Manuk. The same case hapens with Damar and Romang. Wetar Island very particular because it locate at the junction, where the arc splits to the North following Banda arc and right forward to the East following the line of Leti, Sermata, Babar which finally joins Tanimbar Island.

Many authors called this line as the outer Banda Arc which differs significantly from the the Inner Banda Arc. There is no volcanic activity in the outer arc, which is in contrary to the Inner Arc where active volcanoes are located. Although the topography of volcano Island is less than 500 meters the root of the volcano from the sea floor might locate about 3.000 to 4.000 meters. The real height of the volcanoes thus, is about 3.500 to 4.500 meters or higher than Kerinci, the highest volcano in Indonesia.

The volcanic arc of Maluku is the source of heat to generate steam in geothermal system. In the old volcanoes such those in the line of Nusa Laut, Saparua, Haruku and Ambon the heat is produced by retreating magma front. This type of heat is quite conducive to yield geothermal energy. Therefore this group of volcanoes are all the first priority of the geothermal potentials to develop.

Unique geological condition

The geologic setting outlined above demonstrates the unique and complicated geology of Maluku. There are many other publications concerning Banda, the most comprehensive is the Proceedings of Banda Arc Transect published by the Geological Survey of Indonesia (1982). This very particular area has long been the interesting research subject and perhaps will be the case in the future. Nevertheless, for the purpose of economic mineral evaluation the following summary is outlined: 1) Volcanic arc represented by active and inactive volcanoes is potential for geothermal resources and the formation of base metals among others gold and silver; 2) The squeezed Mesozoic and Tertiary sediments mixed with the basement and ophiolite fragments are perhaps the location for oil exploration. Seepages are found among others in Bula, Seram Island, where this assemblage crops out. However the degree of success might be rather low because of the intensive folding and faulting; 3) The continental crust of Sahul shelf promises the potential gas resources. The mechanism of sag basin in the continental flat form has proven to be productive among others in Bonaparte basins North of Australia. The North margin of the Sahul shelf in the common boundary with Papua might be the most potentials for oil and gas. This area is intensively explored taking into account the handicaps of limited data available.

The importance of geologic condition in Maluku Province lays on the very unique

characteristics which draws attention from the scientific community as also exhibited by the floran and fauna in the Past. The Weber deep and the curving shape of the subduction zone remains the mystery to reveal in the future. The area so far is categorized as frontier, due to the scarcity of the available exploration data. This particular situation however might be the challenge and opportunity.

The occurrence of gold in Gunung Botak, Buru Island indicates that in addition to the hydrocarbon potentials, the metamorphic rocks might also contain base metal. The deposits most likely originated from the magmatic activity during the Mesozoic time of Triasic and Jurassic ages. The Gunung Botak gold might have been reworked or in place as in situ. The same case happens in Bombana South East Sulawesi, which remains the mystery. This particular situation might generate the challenge to reveal more deposits in the future.

The old volcanic rock of Plio-Pleistocene age has proven to be potentials for gold deposition such as in Wetar Island. Similarly it occurs in many locations in North Maluku province, among others in Gesowong and Bacan. More deposit to explore in the future.

THE GEOTHERMAL POTENTIALS

Method of estimate

As already outlined above the volcanic belt of Maluku Province is potentials for geothermal energy. It is more significant because the nature of the scale of the dispersed location of the resources. The volcanic belt containing heat resources extend about 1.600 kilometers with about 60 kilometers wide. Although parts of the belt lay under sea water, the location in the island might be promising. The scarcity of data might be the first handicap. However this might also the impact of the economic scale of the demands in the small island.

The study by Japanese experts (Geological Agency, 2007) suggested classifying the degree of economic scale into three categories namely A, B and C. The last category, where the demand is very limited, is recommended to be developed by the government regardless the economic feasibility. They further suggested to apply the subsidy scheme for such geothermal development, taking into account the low interest of the company due to uneconomic feasibility.

The A and B categories might interest for the company because the large demands of electricity regardless the remote location and low demand of the electricity for domestic use. The Jailolo geothermal potentials in Halmahera Island, North Maluku for instance would be developed under feasible economic scale because a large mining company PT Aneka Tambang needs the electricity for the nickel smelter located in Weda Bay, East Halmahera. The situation amplifies the advantage in line with the Mining Law no 4 promulgated in 1999, which stipulates the compulsory processing of raw mineral to export. The feasibility depends upon a lot of circumstances that may develop in the future. The geothermal potentials in Maluku Province therefore remain important to explore regardless the economic scale.

In the estimation of the size of the reserve, there are five levels of the accuracy, namely speculative resource, hypothetic resource, probable reserve, possible reserve and proven reserve (Table 1). The classification is based on advance of the exploration. The estimation of speculative resource or the lowest rank was calculated from the surface manifestation. The surface temperature and chemical composition may lead to the determination of the subsurface temperature. The SiO_2 indicates the temperature up to

250^0 Celsius or lower. Giggenbach and Fournier methods were applied to measure the characteristic represented by Na-K and Na-K-Ca-Mg.

Tabel 1. The standard classification of resources in exploration stage applied in Indonesia

General Estimate	More detailed estimate	Degree of accuracy*	Exploration data*
Resources	Speculative	Very low (< 10%)	Surface manifestation
	Hypothetic	Low (± 20%)	Geochemical exploration
Reserve	Probable	Medium low (± 40%)	Geophysical survey
	Possible	Medium high(± 60%)	Shallow drilling, heat flow
	Proven	High accuracy (> 90%)	Test drilling

* Modified by the authors based on the national standard developed by Geological Survey of Indonesia

The lowest degree of estimation accuracy is the speculative resource, whilst the most accuracy is proven reserve. The sufficient data both from the surface and underground will push the status of the accuracy from speculative to proven. The following Table 2 is the estimation of geothermal potentials in Maluku Province compiled from various sources particularly from the data provided by Directorate General of Electricity and Renewable Energy, Ministry of Energy and Mineral Resources (2004).

Indicators for the geothermal resources

The most important indication of geothermal resources is the present of surface manifestation, related to the heat. Two types of heat sources are known namely the volcano origin and the deep hot rocks origin. In Maluku Province apparently the most important indication is the volcano. The row of volcanoes along the volcanic arc of Maluku is the emminent source of heat. The question is whether such heat energy can be transferred into steam that might push the generator to produce electricity.

Some requirements are needed to accumulate the geothermal energy, namely: a) The heat source, in Maluku Province is the volcanoes; b) The stage of the volcano must be in dying phase or the volcano is old, preferably of Pliocene to Lower Pleistocene. This phenomenon is usually presented by the deeply eroded shape of the volcanic body. In many cases the cone shape has already disappear. The manifestation in the form of mofet, solfatar or fumarole; c) The volcano should have the alteration between permeable and impermeable rocks, which is usual in strato volcanoes such as those in Maluku Province. The requirement is needed to provide space for steam to accumulate; d) The healthy hydrologic system, meaning that the meteoric water should be sufficient to refill the underground water kept in the volcanic body. This particular requirement relates very much with the rate of rainfall and the vegetation.

Based on the indicators as outlined above the geothermal potential in Maluku Province is concentrated on the presence of volcanoes. The volcanoes are located along the volcanic belt of Maluku with the length of 1.600 meter and the width of around 60 kilometers. This figure demonstrates the high potentials of geothermal energy in around 96.000 kilometers square.

Unfortunately a large part of the volcanic row is submerged. However the portion above the sea water surface manifested by volcano islands are potentials for the electric development to fulfill the the needs of the inhabitants. The community type development therefore might take the benefit of the isolated small island with a small scale geothermal development. Based on the requirement pointed above, the following table shows the list of geothermal prospects in Maluku Province (Table 2).

Table 2. Geothermal potentials in Maluku Province (compiled from various references)

No	Location	Island	Estimated Electric Energy		Type of Estimation	
			Low	Optimistic	Low	Optimistic
1	Larike	Ambon	25 MW	125 MW	Hypothetic	Probable
2	Taweri	Ambon	25 MW	125 MW	Hypothetic	Probable
3	Tulehu	Ambon	100 MW	150 MW	**Proven**	**Proven**
4	Oma Haruku	Haruku	25 MW	125 MW	Speculative	Probable
5	Saparua	Saparua Island	25 MW	125 MW	Speculative	Probable
6	Nusa Laut	Nusa Laut	25 MW	125 MW	Speculative	Probable
7	Waeapo	Buru Islands	N.A.	N. A.	Speculative	Probable
8	Batabuel	Buru Island	N.A.	N.A.	Speculative	Probable
9	Lonthor	Banda Island	N.A.	N.A.	Speculative	Hypothetic
10	Rozengain	Banda Islands	N.A.	N. A.	Speculative	Hypothetic
10	Wetar Island	Wetar Island	N.A.	N.A.	Speculative	Hypothetic
11	Wetar Volcano	Off Wetar Island	N.A.	N.A.	Hypothetic	Hypothetic
12	Romang	Romang Island	N.A.	N.A.	Hypothetic	Hypothetic
13	Damer	Damar Island	N.A.	N.A.	Hypothetic	Possible
14	Wurlali	Damar Island	N.A.	N.A.	Hypothetic	Possible
15	Serawarna	Teon Island	N.A.	N.A.	Hypothetic	Probable
16	Lawarkawra	Nila Island	N.A.	N.A.	Hypothetic	Probable
17	Legatala	Serua Island	Hot spring 45^0 C	N.A.	Hypothetic	Probable

N.A. Not available, suggested to be surveyed

THE ASSESSMENT ON INDIVIDUAL POTENTIALS AND PROSPECTS

List of volcanoes and geothermal assessment in Maluku Province

The source of heat in the geothermal system of Maluku Province apparently derives from the volcano. Magma chamber radiates the heat to the body of the volcano and its surrounding. If enough ground water, the hot spring usually occurs. In absence of ground water, other manifestation such as mofet and solfatar might take place. Hot spring in Kali village in Damar Island indicates the prospect of geothermal energy in this island. Wurlali located in Damar Island is likely to be the source of heat.

The most active volcano in volcanic arc of Maluku is Banda Api. The volcanic arc therefore quite frequently named Banda Arc. In Pre-historic time Banda Api volcano erupted violently resulted in the formation of a submarine caldera (Matahelumual, 1988). The present Banda Api grows in the ancient caldera (somma) as the regeneration of Ancient Banda. The altitude of the cone is 658 meters above sea level. The real height from the sea floor might exceed 3.800 meters.

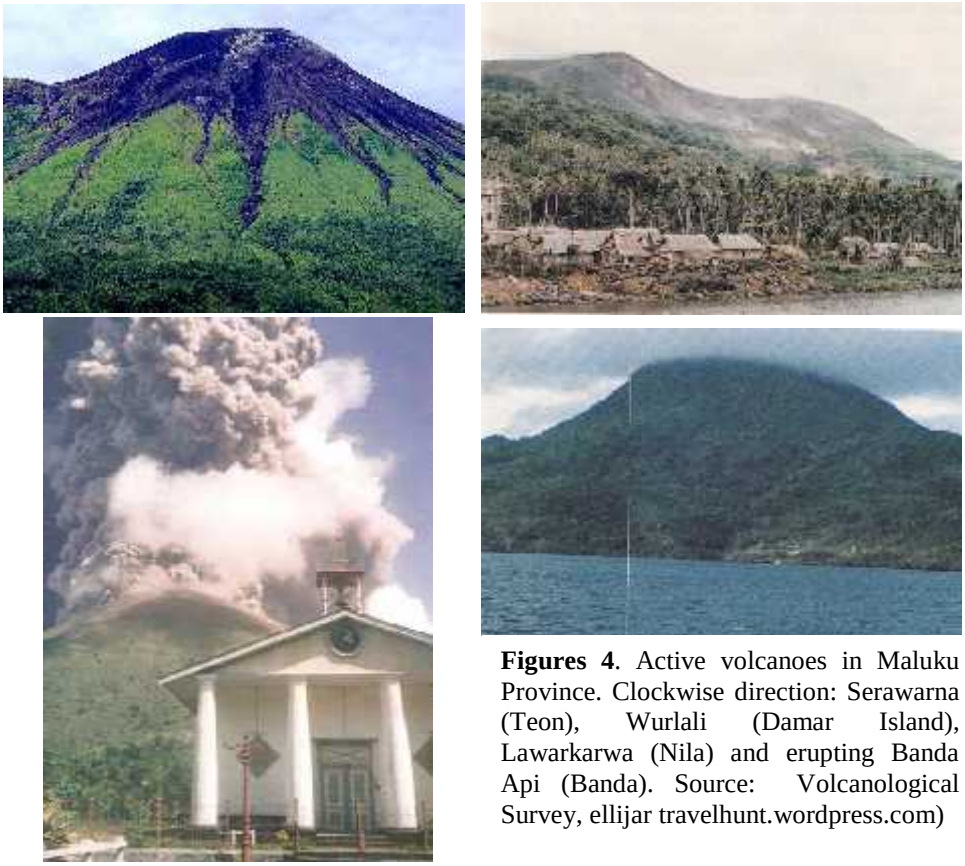
The north edge of the roe is in Ambon area consisting of volcanoes in Nusa Laut, Saparua, Haruku and Ambon. There are several centers of activities, mostly are dying. The volcanoes in these islands might have the age of Pliocene or Lower Pleistocene. The other edge of the arc is identifies by Wetar Island, supposed to be the beginning of the belt splitting the Sunda Arc into volcanic and non-volcanic arc. Kisar Island is the initial island of non volcanic. The arc is therefore young in the middle and olding to both edges. The list of volcanoes and its characteristics is presented in Table 3 and some of them are featured in Graph 4.

From the list of Table 3 it may come to the conclusion that some of the volcanoes show the indication of the geothermal potentials. The old volcanoes are feasible for the accumulation of geothermal potentials. However various handicaps are to be anticipated; a) The economic feasibiliity due to the low number of population; b) The area of danger in case the volcano eruption that cover almost the whole island. In the past the inhabitants experienced the total evacuation to other island; c) The isolated location.

Table 3. Name of active and ancient volcanoes and the geothermal assessment in Maluku Province*

No	Name of Volcano	Island	Characteristics	Geothermal Assessment
1	Banda Api (+641 m)	Banda	Active, mainly lava	Ancient hot spring in Rozengain, hypothetically Lonthor Island suitable for accumulation of steam, populated
2	Manuk	Manuk I	Repose period	No geothermal indication
3	Legatala (+641 m)	Serua	Inactive since 1921	Solfatar 99^0, fumarole 85^0C, hot springs in North and South Coast 45^0C
4	Lawarkawra (+781 m)	Nila	Active, dome, hot avalanche	Inactive solfatar in the coastal area, alteration zones, old volcano
5	Serawerna (+655 m)	Teon	Crater opens to the North, active	Fumarole and solfatar in the top 80^0-110^0 C. Dangerous to develop
6	Wurlali (+686 m)	Damar	Active, fumarole and solfatar, 90^0 C, sulphur was mined, two craters	Ancient crater of Damar (Damer), the location of Wurlali is suitable for geothermal potentials, hot spring in Kali village
7	Wetar Volcano (+282 m)	240 km N of Wetar Island	Solfatar, isolated, diameter 1 km, total area 0.8 km^2	Not potential for geothermal development, small, isolated
8	Old volcanoes	Wetar	Ancient volcanoes	Topographically two ancient volcanoes were identified
9	Saparua	Saparua	Ancient volcano	Prospective, Hypothetic
10	Larike	Ambon	Ancient volcano	Prospective, Hypothetic
11	Taweri	Ambon	Ancient volcano	Prospective, Hypothetic
12	Tulehu	Ambon	Ancient volcano	**Proven, retreating magma, 100 MW**
13	Oma Haruku	Haruku	Ancient volcano	Prospective, Hypothetic
14	Nusa Laut	Nusa Laut	Ancient volcano	Prospective, Hypothetic

*Compiled from various sources mainly from Geological Survey of Indonesia (1988, 1991)



Figures 4. Active volcanoes in Maluku Province. Clockwise direction: Serawarna (Teon), Wurlali (Damar Island), Lawarkarwa (Nila) and erupting Banda Api (Banda). Source: Volcanological Survey, ellijar travelhunt.wordpress.com)

In many cases the demand is economically feasible, among others the Island of Banda, where the city of Banda Neira is located. This island was the center of business in the 17 century. The luxurious government buildings and the strong forts are the evidences that me be observed to-day.

The Tulehu prospect (soon will be called Tulehu Field)

Tulehu Geothermal Prospect is the most advance electric development harvesting geothermal energy. Tulehu geothermal prospect is located about 8 kilometers NE of the Provincial capital ciity, where the electric consumption is rather high (Figure 5).

The Tulehu prospect at present has entered the development stage after a considerable time of lap since the exploration survey. The development is underway and hopefully soon the Tulehu Prospect will become Tulehu Geothermal Field. The detailed exploration study carried out by joint Japanese-Indonesian Team (Nasution et al., 2012) revealed the proven energy of 100 MW electric equivalent. This estimation was based on a comprehensive survey applying various method and finally a test well with the depth of 930 meters was drilled. The drilling gave the validation of the interpreted surface geology, geochemical thermometry, 1D-3D MT-TDEM combination, stable isotop and shallow gradient thermal drilling. Based on exploration standard the methods used in this survey has already meet the requirement to conclude the proven reserve.

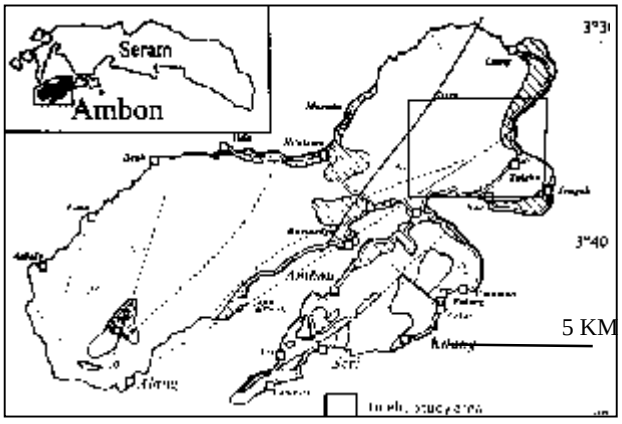


Figure 5. The location of Tulehu Geothermal Prospect denoted by quadrangle) about 8 kilometer NE of Ambon. Two other prospects in Ambon Island are Taweri and Larike about 12 Km and 16 Km NW of Ambon respoectively (Source: Nasution, et. al., 2015).

The combined data as the final interpretation of Tualehu Prospect shows the accumulation of steam at the depth of about 800 meters with the temperature of 250^0 C or high enthalpy steam reserve. The energy estimation concludes 100 MW electric equivalent. At a low estimation the exploitable energy might amount to 40 MW. The alteration of smactite-illite, chlorite clay and pyrophyllite confirms the cap rock at the depth of 800 meters. The heat source comes from the retreating intrusion most likely the oldest stage of Late Tertiary to Early Quaternary Age.

Based on the stable isotope analysis water might have come from the sea water intrusion combined with meteoric water. The surface manifestation indicating the geothermal energy was identified from the hot spring distributed along the fault lines in NE and NW direction. The model shows two intrusions, namely Tulehu and Eriwakang (Figure 6) . The Tulehu manifestation appears to be more prospective.

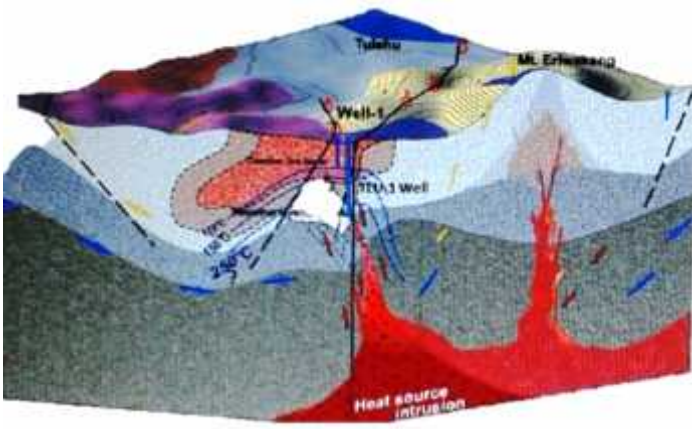


Figure 6. Geothermal model of Tulehu Prospect, showing two sources of heat and the water supply. The steam is located at the depth about 600 meters (Source: Nasution et al., 2015)

From the model of Tulehu Geothermal Prospect it appears that another heat source is present to the North East of Tulehu. This condition provides the other prospect for the future. The optimistic resources of 125 MW might increase to be dibble or about 250 MW. The conventional estimation by Japanese expert gave the figure of 40 MW at the lowest. The production of a generator unit of 30 MW therefore is quite feasible.

Due to the strategic location close to Ambon this prospect economically is viable. Furthermore the distribution grid is readily available. The demonstration effect of the successful Tulehu prospect might trigger the development of other geothermal potentials in Ambon Iowland, namely Taweri and Larike. Optimistic estimate shows respectively the potentials of 125 MW with minimum of 25 MW.

The geothermal resources in Ambon Island in total amount to around 500 MW. The supply is far above the present demand. The available electricity might trigger various kind of marine and agro industries. Taking into account the short distance from the giant copper mining in Papua, it is expected that the company will be interested to build the smelter in Ambon. The marine facilities in Ambon island has long been ideal for sea transportation.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The exponential demands of electricity in Maluku Province is immense with annual increase of 7.1% as the result of economic growth of 2.9% and the population rate of 2.4; To overcome the electricity demands, there are a variety of energy resources in Maluku Province, namely hydropower in Seram and Buru, Ocean Thermal Energy Conversion (OTEC) provided by the sea water, wind, solar and geothermal energy; Geothermal energy seems to be most feasible due to a large number of old and young volcanoes that provide heat for the generation of steam to produce electricity; The potentials of about 225 MW have already been estimated, 100 MW of which is categorized proven in Tulehu prospect and hopefully will soon produce the first stage of electricity; The volcanic belt of Nusa Laut, Saparua, Haruku and Ambon harbors ancient volcanoes with the geothermal prospects in 6 locations which is very strategically located around the Provincial capital city of Ambon; The other island with old and young volcano might also produce the geothermal energy based on the preliminary observation on the presence of hot springs such as that in Damar Island; The dispersed location of the geothermal potentials is the advantage for the Islands Province in minimizing the distribution grid.

Recommendations

The government should provide the incentive for development of geothermal energy in the Islands Province, taking into account the negative economic feasibility due to the limited number of population and thus the demands; The incentive might be in the form of exploration and feasibility study which will reduce the risk in the geothermal development. Hopefully the scheme will draw the interest of investors;

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Business environment as an intervening variable of market orientation and business performance of Batik Jambi SMEs

Ade Octavia

Faculty of Economics and Business, University of Jambi

Correspondence e-mail: octaviafeunja@yahoo.com

Abstract

Batik Jambi is a unique product of Jambi Province, but the performance of batik Jambi SMEs business is still low. The purpose of the research is to analyze the role of the business environment on the relationship of market orientation, entrepreneurship orientation and business performance. The research method used is qualitative and quantitative with interview approach, observation, documentation and sample survey. The sample of this research is Batik Jambi SMEs. Sampling used judgment sampling method. The analysis tools used are FGD and PLS (partial least square). The results show that the business environment is a variable between the relationship of market orientation and business performance, but not the intermediate variables on the relationship of entrepreneurial orientation and business performance.

Keywords: *Business Environment, Market Orientation, Entrepreneurial Orientation, Business Performance.*

INTRODUCTION

Batik Jambi become one of superior product which is expected to be able to compete in domestic and foreign competition market. SMEs Jambi batik spread evenly and raised the local wisdom of Jambi to be introduced to the target market. However, there is a decrease in the number of craftsmen each year because of their inability to maintain business performance.

The success of a business can be seen from the achievement of business performance (Westerberg and Wincent, 2008), including business groups with small and medium category. Business performance is an important factor in mapping the competitive position within the market (Whellen *et al*, 2015). To improve business performance is strongly influenced by several factors. According to Hermann *et al* (2010) and Ginta (2014) entrepreneurial orientation is an important factor in influencing business performance in addition to other factors. There is a positive relationship between entrepreneurial orientations to business performance. Together with management capabilities and business strategy, entrepreneurship orientation can improve business performance of UMKM (Ibrahim, 2013). Kreiser and Davis (2010) suggests an effort to foster entrepreneurship within small and medium-sized businesses and encourage them to have ability to innovate, risk taking and being proactive . If small and medium entrepreneurs have entrepreneurial spirit plus it has orientation to market and competition, then business performance will be positive. This is in accordance with the opinion of Baker and Sinkula (2009) and Felgueira and Rondrigues (2012).

The orientation of entrepreneurship can have an indirect effect on business performance through market orientation (Octavia, 2006). Cadogan and Dimantopoulus (1995) define market orientation as alignment to consumer orientation, competitor orientation, inter-functional coordination and profit orientation. The market orientation directly influences business performance as proposed by many research results, among others by Ali *et.al* (2005), Matanda (2009), Asgar *et.al* (2013) and Moghaddam *et. al* , (2013). But also found a contradiction of the results of these studies. In some studies it shows the opposite. Han *et al.* (1998) and Kohli and Jaworski (1990) shows no relationship between market orientation and marketing performance. It is interesting to examine further which of these two perspectives is supported by empirical data for small and medium industries especially in Indonesia, given the different business and cultural characteristics of other countries .

Generally SME entrepreneurs in Indonesia still focus on the aspects of production and sales, applying customer-oriented concepts, competitors and inter-organizational coordination (market orientation) has not been a *grand strategy* to produce high business performance. Hafeez *et.al* (2011) stated that market orientation and entrepreneurship orientation can improve business performance for small and medium enterprises. Jordan, Moses. A. (2004) found that market orientation and entrepreneurial orientation were factors that influenced banking performance. With a sample of 950 banking managers, researchers found that national culture is not a moderating variable that reinforces the relationship between entrepreneurial orientation and business performance. This is quite interesting where some researchers actually connect between national cultures with entrepreneurial orientation. William and James (2009) conducted a study on SMEs found that entrepreneurial orientation and market orientation directly to affect profitability. There are findings of contradiction with other findings that suggest that entrepreneurial orientation and market orientation complement each other to increase profitability. Baker and Sinkula (2009) found that entrepreneurial orientation is a market-oriented antecedent factor and has an indirect relationship to profitability through innovation variables. Lee and Tsai (2005) found a positive relationship between market orientation and entrepreneurial orientation. In contrast to Baker and Sinkula (2009), Lee and Tsai (2005) conclude that market orientation is the antecedent variable of the entrepreneurial orientation, through which both variables will affect the organization's business performance.

To generate high business performance small and medium enterprises should focus on the business environment and have highly experienced human resources (Haris *et al.*, 2014). In its research in Malaysia for small and medium sized agribusiness sector, Aziz and Yassin (2010) found that market orientation has a significant effect on business performance, but the business environment is not a moderating variable between market orientation and business performance. The results of this study differ from the research Kohli and Jaworski (1990) who found that the business environment is a moderating variable between market orientation and business performance. While Milovanovic and Wittine (2014) state the business environment is a moderating variable of entrepreneurial orientation relationships and business performance. There is a difference of opinion about the two variables as an amplifier of the relationship between market orientation and performance. Unlike previous studies, the novelty of this research is to examine the business environment as an *intervening* variable between the relationship of market orientation, entrepreneurship orientation and business performance. This research will test the antecedent and intervening variables of market

orientation and business performance in small and medium industries.

SME Batik Jambi in the free competition market can successfully win the competition. The government is optimistic that the intensive development of SMEs Jambi batik can produce products with high competitiveness and contribute positively to the state revenue. Even the increasing number of SMEs and their ability to absorb high workforce play a major role in poverty alleviation. However, in reality there are still many SMEs that fail to improve their business and have high business performance, due to their inability to produce products favored by the market with a high level of innovation. In connection with the implementation of free trade, most of Indonesia's products are feared will be unable to compete with products from other countries. The ability of SMEs Jambi batik to innovate, proactive and courage to face the risk is absolutely necessary. Under these circumstances the role of the business environment is expected to be strong for business performance improvement. Thus an empirical study of the relationship of market orientation, entrepreneurship orientation and business environment to business performance is required. Based on the description, then the research problem is: 1) Is the business environment variable an *intervening* variable between the relationship of entrepreneurship orientation and business performance?; 2) Is the business environment variable an *intervening* variable between the relationship of market orientation and business performance?.

RESEARCH METHODS

Research design

The purpose of research in the first year is to explore and develop research models, therefore the selected research design is a qualitative study. After the model is formulated, then further testing of the model by a quantitative approach. this research is used qualitative design with interview approach, observation, FGD and documentation. the research used quantitative approach with *sample survey*. The data source consists of primary data and secondary data. Primary data required are respondents' perceptions of the business environment, entrepreneurship orientation, market orientation and business performance. Secondary data required include data on the number of SMEs, superior product data, SME product group data, SME business development data and research related to the research topic. Primary data collection techniques by means of observation, interview, *Focus Group Discussion* (FGD) and questionnaire distribution. For secondary data collection by documentation and literature study.

Population and sample

The population in this research is SME batik entrepreneur Jambi in Jambi Province. The sample was taken by *nonprobability sampling* method through *judgment sampling* procedure . Selection of respondents on the consideration of age, length of business, location, attitude and motivation. The determination of the number of samples using the Malhotra approach. For the use of SEM PLS analysis tool is suggested the number of samples 100-200 respondents.

Analysis tool

Analysis tool used is SEM by using PLS software (*partial least square*). Measurement of SEM with Smart PLS uses *outer model* and *inner model*. Evaluation of measurement model or *outer model* is performed through *Confirmatory Factor A nalysis (CFA)* , by testing the validity by looking at the value of *Loading Factor,* Average Variance Extracted (AVE), Communality , and testing model reliability by

looking at Cronbach's Alpha and Composite Reliability values . Evaluation of structural model or inner model aims to predict the relationship between latent variables by looking at the percentage of variance explained by looking at the value of R-Square, as well as significance testing to see the value of T-statistics in Table Path Coefficient s (mean, STDEV, T-Values). Evaluate the model by looking at the value of significance T-statistics to determine the influence between variables, through jackknifing or bootstrapping procedures first.

RESULTS AND DISCUSSION

Micro business is a business sector which is 98.90% of economic actors in Indonesia and contributed significantly to Gross National Income (32.05%). This sector also helps overcome the problems faced by the government related to the absorption of manpower especially in using local resources and rural economic development.

Batik Jambi become one of superior product which is expected to be able to compete in domestic and foreign competition market. Jambi batik SMEs spread evenly and raised the local wisdom of Jambi to be introduced to the target market. However, there is a decrease in the number of craftsmen each year because of their inability to maintain business performance.

In fact, there are still many SMEs that fail to improve their business and have high business performance, because of their inability to produce products favored by the market with high innovation. In connection with the implementation of free trade, most of Indonesia's products are feared will be unable to compete with products from other countries. The ability of SMEs Jambi batik to innovate, proactive and courage to face the risk is absolutely necessary. Under these circumstances the role of the business environment is expected to be strong for business performance improvement. Thus an empirical study of the relationship of market orientation, entrepreneurship orientation and business environment to business performance is required.

However, in reality there are still many SMEs that fail to improve their business and have high business performance, due to their inability to produce products favored by the market with a high level of innovation. In related to the implementation of free trade, most of Indonesia's products are feared will be unable to compete with products from other countries. The ability of SMEs Jambi batik to innovate, proactive and courage to face the risk is absolutely necessary. Under these circumstances, the role of the business environment is expected to be strong for business performance improvement. Based on the test result there is significant influence of business environment to business performance with p-value equal to 0,020, likewise on market orientation relation to business performance and business environment.

Table 1. Effect between variables

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	t tabel (df =n-k=40-4=36), α=5%	P Values	Remarks
LB -> KB	0,356	0,354	0,153	2,325	2,028	0,020	Accepted
OP -> KB	0,517	0,522	0,143	3,623	2,028	0,000	Accepted
OP -> LB	0,579	0,542	0,150	3,866	2,028	0,000	Accepted
OP -> OW	0,642	0,570	0,210	3,057	2,028	0,002	Accepted
OW -> KB	0,098	0,077	0,122	0,808	2,028	0,420	Rejected
OW -> LB	0,271	0,251	0,147	1,836	2,028	0,067	Rejected

Source: Primary data,2017

The different results seen in testing the effect of entrepreneurial orientation on

business performance and business environment, where there is a value above 0, 05, which means there is a significant difference between the two variables. However, market orientation has a significant effect on the entrepreneurial orientation. The results of statistical calculations show that the business environment is the intermediate variable for the relationship of market orientation-business performance. This means that if SME batik Jambi has orientation to market supported by supportive business environment then business performance of SME will increase.

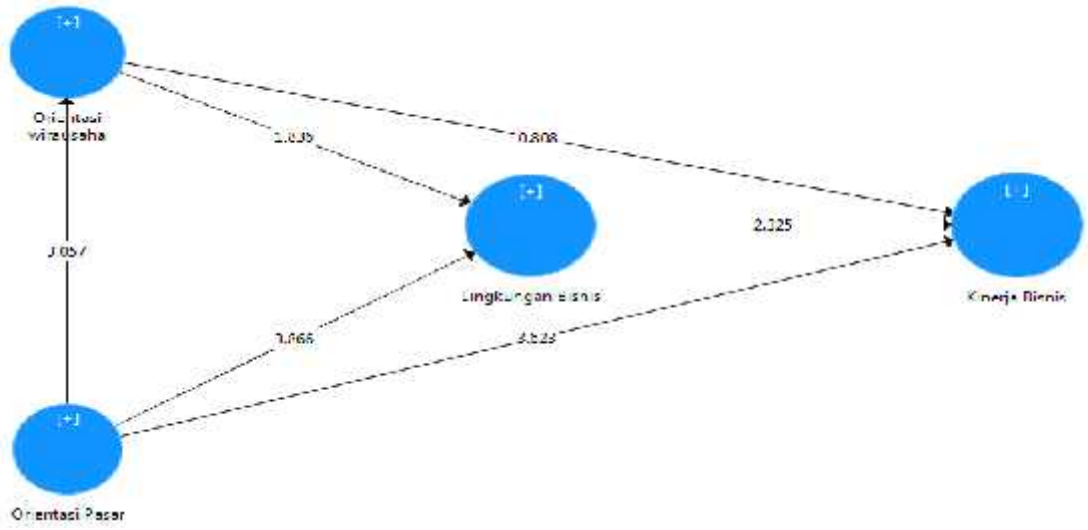

Figure 1. Model of SME's Jambi Batik business performance.

There are some perspectives if about market orientation that are (1) perspective of strategic approach, (2) perspective of decision making, (3) customer orientation perspective, (4) perspective of market intelligence, (5) cultural perspective (Teck, 2012). Some results research has proven a strong relationship between market orientation with performance (Matsuno et al., 2002), whereas other research results do not support there is a positive relationship between market orientation and organizational performance (Han et al., 1998; Jaworski and Kohli, 1990). The results of this study support the opinion of Matsuno et al (2002); Bhuian, 1997; Deshpande et al., 1993; Jaworski and Kohli, 1990 . In the opinion of Felguirea and Rondigrues (2012) and Octavia (2006), orientation was entrepreneurship and market orientation has a positive relationship to environment business performance. The results of this study differ from the results of previous studies.

Generally SME entrepreneurs in Indonesia still focus on aspects of production and sales, but not yet oriented entrepreneurship such as courage to take risks, innovative and creative. Based on the addressing of SMEs Batik in Jambi City is a type of business that is hereditary and is a family business so that the tendency of SMEs Batik entrepreneurs to develop entrepreneurship orientation still lower. The ability of SMEs Batik Jambi to innovate, proactive and courageous to face the risk absolutely necessary. Plus that some batik SMEs have not fully become the main business, but still a side business. Under these circumstances the role of the business environment is expected to be strong for business performance improvement. To improve the competitiveness of superior products Batik Jambi hence required role government, private and SME's owner

themselves. The following outlines the roles that can be done by each party. Small and medium industries desperately need the role of government for improving business performance. Limitations of knowledge about market access, access to capital and information make SMEs find it difficult to market their products. Although government programs was launched to help SMEs like training programs and business assistance, but the performance is still relatively low (Octavia, Haryadi, Yulmardi and Rahayu, 2010). Basically competitive advantage will be an important asset for the business in a sustainable manner. Competitive advantage is not it just a name/brand that has been widely known in the community, but the competitive advantage is the extent to which the value of the product or value of the company is perceived both in the minds of consumers. Private role in strengthening SME's Batik Jambi the great, especially to support the government. One of the weaknesses of Batik Jambi is the availability of limited coloring materials, marketing channels and technology used. In this case, the government can cooperate with private parties to facilitate this weakness. The government should also facilitate the marketing channel of jambi batik. It needs to make policies to encourage the marketing of batik to the region and other countries, by way of private ak PIH cooperating as partners. The existence of this networking can help entrepreneur to improve business performance. Private parties can become partners in doing socialization about Batik Jambi. The involvement can also be seen in the form of fashion show activities, fashion design, Jambi Batik industrialization and provide outlets special outlet Batik Jambi.

CONCLUSIONS AND RECOMMENDATION

Conclusions

Business environment variable is intervening variable between market orientation and business performance and business environment variable is intervening variable between entrepreneurship orientation and business performance. Market orientation variables show a positive and significant impact on the business performance of the business environment while the entrepreneurial orientation variables have no effect on business performance and business environment. To improve the competitiveness of SMEs Jambi Batik required three parties in synergy namely the government, the private sector and strengthening the performance of SMEs batik Jambi itself.

Recommendation

Jambi Batik is the flagship of Jambi city for it needs to be strengthened and improved its competitiveness. In Jambi Batik artists must be strengthened to entrepreneurial oriented by having a culture to understand the needs of customers and pass on to everyone who is in the company to also oriented to the customer. The government should formulate programs aimed at strengthening the competitiveness of SMEs. The program is not only related to providing equipment, technical and management support, but also strengthening motivation in SME's to develop in particular be orienta i to the desire shown by the market. For example, the demand to produce modern motives, but still able to maintain the characteristic. A re-examination of the entrepreneur-oriented business-performance relationship is required in other small industry types.

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Study of the potential expansion of new rice fields in Central Maluku District to support food security in Maluku Province

Rusmin Nuryadin; Edy Suryadi; Robby Andoyo; Dwi Rustam Kendarto

Padjadjaran University

Correspondence e-mail: rusminnuryadin30@gmail.com

Abstract.
Maluku province is one of the Islands in Indonesia. Seram island is one of the largest islands in the Maluku province lies the Central Maluku Regency. Central Maluku district is one of the priotities regions in the development of paddy fields in the province of Maluku. According to the BPS Maluku province in the year 2015 Government Maluku province was only able to meet the needs of 58% of the rice. Fulfillment needs rice is one of the Government's efforts in food self-sufficiency, it is because of the availability of food is one of the primary needs. Increased agricultural productivity through the extension of new rice fields became one alternative settlement in fulfillment of rice. The increase in rice production through the expansion of rice fields is still possible, because of the potential land is suitable for the expansion of rice fields was still quite spacious. The success of the process of the expansion of paddy fields depend on the expansion of the activities of the mechanism of the rice is done. The process of the expansion of rice fields is preceded by feasibility investigation location. Feasibility study of the site was conducted to find out the feasibility of potential land with the observations in the field which is then processed and spatial analysis in using ArcGIS software. Results of a survey investigating the Central Maluku district region with a total area of 594.29 achieved ha based on the suitability of the land for the potential expansion of new acres of rice paddies 587.35 ha from 2 (two) subdistricts include North Eastern Seram Subdistrict Kobi m2 170.87 ha and North Seram Subdistrict covering 416.82 ha.

Keywords: *The Expansion Of New Rice Fields, Agricultural Land Suitability Evaluation, Islands*

INTRODUCTION

Maluku province is a region of islands which consists of 559 Island, and from a number of the island, there are a few islands that belong to the big island. The Mainland province of Maluku is inseparable from the mountain and Lake clusters contained almost throughout the district/city, which numbered four (4) and 11 (eleven) of the Lake. As for the highest mountain Gunung Binaya altitude 3,055 MASL, located in Seram island Maluku Regency.

Central Maluku district is one of the priority regions in the development of paddy fields in the province of Maluku. Administratively, the Central Maluku has 17 (seventeen) subdistrict consists of 172 countries, and 6 (six) wards, with the flagship sector or commodity there is the same and there are different scattered in 17 districts. Geographically, Central Maluku district after expansion is located between 2 ° 30 '-7 °

30 ' LS and 250 ° – 132 ° 30 ' BT, and is the area of the Islands with a population of as many as 53 Island fruit, where inhabited by as many as 17 and never inhabited as much as 36 pieces.

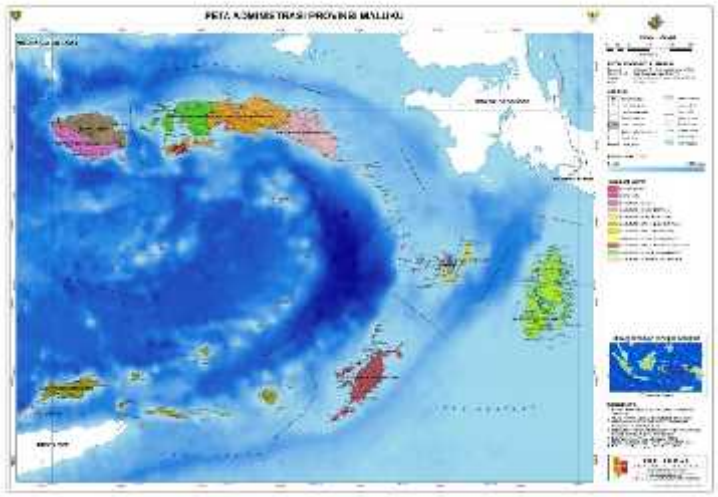

Figure 1. Administration Of Maluku Province map
Source: Thematic Map Of Indonesia

The shape of the Central Maluku district area is grouped based on the fisiografi approach (macro-relief), Plains, beaches, hills and mountains with a varied slope. Recorded as much as 2 3 mountains, Plains, 2 lakes and rivers are in fruit 144 regions of Central Maluku Regency. According to the BPS Maluku province in the year 2015, Government Maluku province was only able to meet the needs of 58% of the rice. Fulfillment needs rice is one of the Government's efforts in food self-sufficiency, it is because of the availability of food is one of the primary needs.

Figure 2. Administration of the Central Maluku District
Source: Thematic Map Of Indonesia

Increased agricultural productivity through the extension of new rice fields became one alternative settlement in fulfilment of rice. The increase in rice production through the expansion of rice fields is still possible, because of the potential land is suitable for the expansion of rice fields was still quite spacious. The success of the process of the expansion of paddy fields depend on the expansion of the activities of the

mechanism of the rice is done. The process of the expansion of rice fields is preceded by business feasibility investigation location.

RESEARCH METHODS

Feasibility study of the site was conducted to find out the feasibility of potential land with the observations in the field which is then processed and spatial analysis in using ArcGIS software. Activities survey investigate CPCL (SI-CPCL) expansion of paddy fields using some method that collaborates be integrated activities either in descriptive, analytic or survey. A holistic approach is used in order to obtain optimum results.Stages of work in the activities of SI-CPCL includes preparations consisting of data acquisition and mobilization, survey the field include a spatial location of land measurement and measurement and identification of characteristics of land and water resources. Socio-economic surveys were done to obtain information the willingness of farmers in the rice field expansion program.Preparation phase carried out the preparation of the list of prospective locations. The list of prospective locations for expansion of paddy fields in the survey and investigation. The location of the candidate list was signed by the head of Department of agriculture Provinces or appointed by the KPA.

Figure 3. Flowchart diagram of the survey investigation new rice field

Field survey includes measurement of the activity of land are the spatial candidate. Prospective land that had already been planned then measured in terrestrial by directly surrounding it. Characteristics of prospective land observed in field intensity observation ground 1 (one) observation represent 25 ha. Ground observations made through the soil profile or drilling as deep as 1.2 meters or more shallow when there are

rock solid for mineral soils, whereas in peat up to a depth of 1.5 metres if the thickness of the peat is less than 1 meter or substratum (mineral lands) if the thickness of the peat is more or equal to 1 meter. Evaluation methods of land use refer to the Technical Evaluation of land for agricultural commodities (BBSDLP, 2012) with modifications to suit local conditions.All the data obtained are then analyzed to produce classroom suitability of land for the extension of new rice fields. Land suitability class refers to the framework of FAO (1976) as follows:

Class S1: ***Highly suitable*** : The land does not have a limiting factor or real meaning against the use of sustainable, or limiting factor are minor and will not affect the productivity of the land.

Class S2: ***Moderately suitable*** : The land has a limiting factor, and this will be a limiting factor to productivity, requiring additional input (input). The delimiter can usually be overcome by farmers themselves.

Class S3: ***Marginally suitable*** : The limiting factor will be very effected on productivity, requiring additional input more than land that belongs to the S2. To overcome the limiting factor on S3 requires high capital, so the need for assistance or intervention (intervention) the Government or private parties.

Class N: ***Not suitable*** : The land has a limiting factor that is very heavy and/or difficult to overcome.

RESULT AND DISCUSSION

Analysis of the suitability land

At first the plan land use potential to be developed into paddy fields proposed by the Department of Agriculture of Central Maluku district covering an area of 500 ha, the targets in the northern Seram of Huahulu village Trans Kilolima 350 m2/ha, Seram Subdistrict The North East of the village of Waetonipa and Seti Marasaua covering an area of 100 ha (each covering an area of 50 ha village) and North Eastern Seram Subdistrict Kobi Kobi Village Conscious area of 50 ha. However, further developments, the district changed his proposal i.e. the redirect target from the villages of Waetonipa and Marasaua to the village of Sariputih and the village of Leawai. Based on the results of the investigation area in 2 (two) subdistricts retrieved extents of 594.29 ha, thus there is excess area of 94.29 ha which are contained in Table 1.

Table 1. Area measurement results SI-CPCL distribution subdistrict and village in Central Maluku District

No	Subdistrict	Village	Realization Of Measurement CPCL (Ha)
1	Seram Utara Timu Kobi		171,84
		Sari Putih	128,09
		Leawai	43,75
2	Seram Utara		422.45
		UPT Kilo V	422.45
	Total		594,26

Source: Field survey, 2016

Results of a survey investigating the Central Maluku district region with a total area of 594.29 achieved ha based on the suitability of the land for the potential expansion of rice paddies covering 587.35 ha from 2 (two) subdistricts include North Eastern Seram Subdistrict Kobi 170.87 ha m2 and North Seram Subdistrict covering

416.82 ha. Seram subdistrict of North East and North Seram Kobi is a subdistrict of land with the potential for the expansion of rice farming is big enough and good enough because it is customary owned land and resettlement with physical characteristics which are quite supportive of plus the community's socially very enthusiastic to participate the expansion of rice fields

North Seram Subdistrict

Survey of North Seram subdistrict investigation carried out in the village of Seram UPT Kilo V with extents reach 422.45 ha. Based on the results of the analysis of the eligibility of land for potential printing rice apparently retrieved extents of 416.48 ha.

Table 2. Area of Potential expansion of rice fields on the North Seram Subdistrict

No.	Village	Realization Of Measurement (ha)	The Potential Expansion Of Rice Fields (ha)
1	Huahulu	422,45	416,48
	Total	422,45	416,48

Source: Field survey, 2016

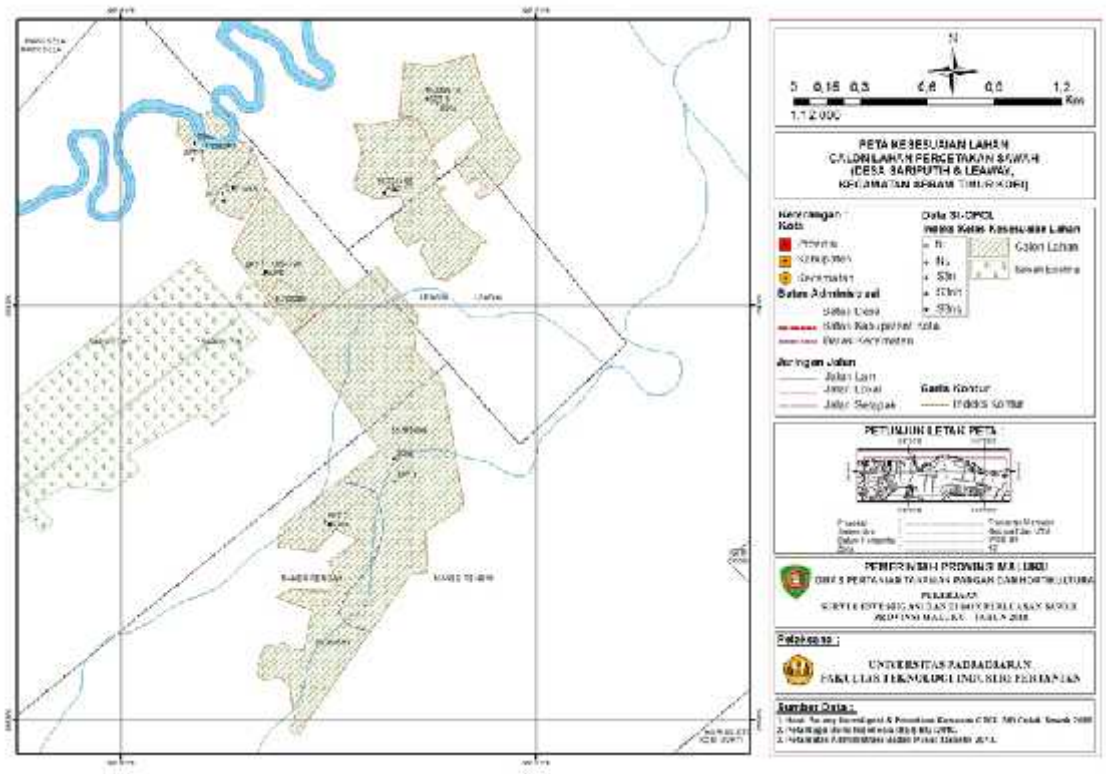

Figure 4. Map overview of prospective land Seram Timur Kobi Subdistrict of field printing, Central Maluku District

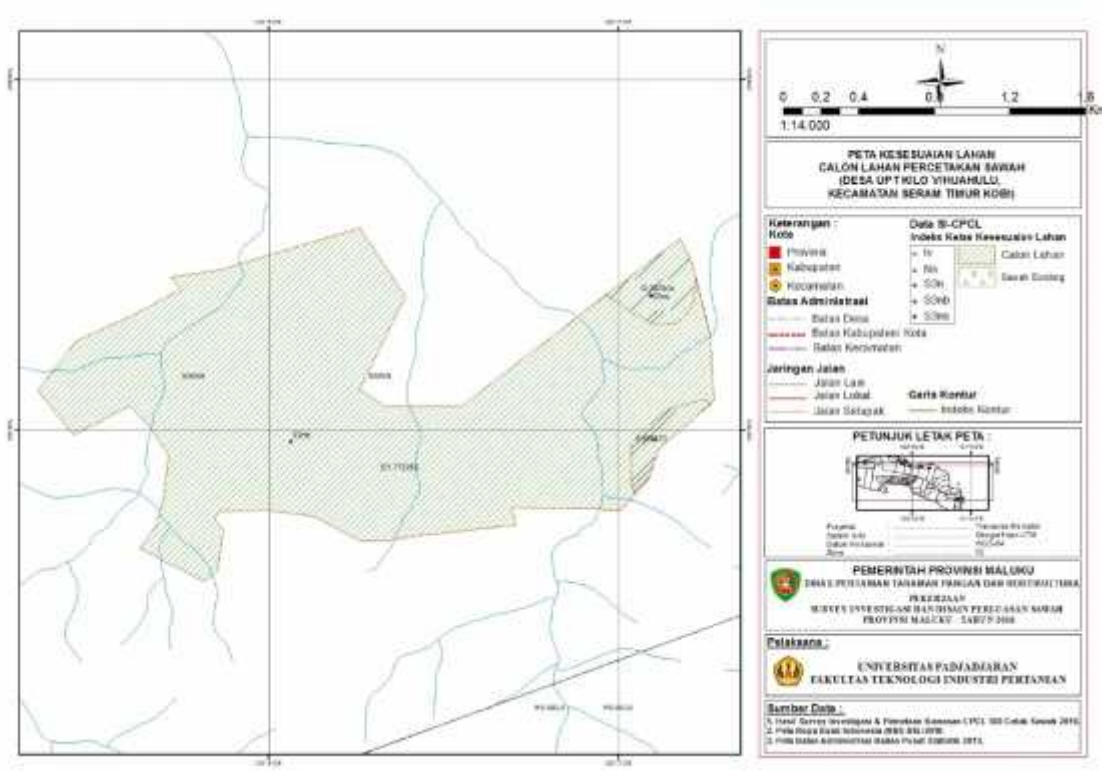

Figure 5. Map overview of prospective land North Seram Subdistrict of field printing, Central Maluku District

Tabel 3. Feasibility of location in Central Maluku District

No	Subdistrict	Village	Measurement SI (ha)	Land Suitability (ha)		Feasibility Of Location		
				S3nb	S3ns	Physical Suitability/ Feasibility Of Land	Feasibility Of Hydrology	Feasibility Of Social
1	Seram Utara Timur Kobi	Sari Putih	128,09	101,83	26,26	Yes	Yes	Yes
		Leawai	43,75	43,75		Yes	Yes	Yes
2	Seram Utara		422,45	332,7	89,75	Yes	Yes	Yes

Source: Field survey, 2016

Socio-economic analysis of agricultural

The fulfillment of the basic necessities of farmers. Assuming the production of rice, then ownership of land with an area of CalonPetani ha 1.0 average, obtained results 4.0 ton – 4.5 ton/year (assuming 1 harvest time/year). Regional food procurement If estimated opening of the expansion of the wetland area of 3,647 ha (tentaive) with production results padai 4 ton/ha obtained food as much willingness 14,588 tons/year assuming only one harvest time/year. This amount is enough means to meet the food needs of regional development are in place in particular the expansion of rice fields. Land use sleep unproductive land mostly belonging to Prospective farmers in Maluku province is recommended as the expansion of paddy fields have the condition as a land with grass vegetation and trees that are not productive. Therefore, the existence of a

plan the expansion of rice fields can make the land became productive which gives the benefit of economic, social and regional food security programmes in particular.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

A survey investigation of CPCL Expansion/Printing New rice fields in Central Maluku Regency of Maluku province has been completed, with the close area of 591.29 ha. From the land that measured over 591.29 ha, after analysis of the suitability of land for land acquired land that was worthy of the S3nb of 468.28 and S3ns of 116.01 ha for socio-economic development is beneficial for the fulfilment of basic necessities farmers, regional food procurement, and land use, which is not productive.

Recommendations

Central Maluku district included into the cluster of islands of agricultural development in the province of Maluku, thus the policy and direction of the development of any regions should be focused in the field of agriculture. After a review and evaluation of land with some limiting factor for growing rice plant terms that exist in Central Maluku Regency, Central Maluku District have the potential of land for expansion of new acres of rice paddies do 591.29 ha.

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Linking personal attributes, technical skill and managerial competence towards entrepreneurial orientation and the success of traditional home culinary industry

Shofia Amin; Husni Hasbullah

Faculty of Economics and Business, University of Jambi

Correspondence e-mail:shofiaamin@unja.ac.id

Abstract

Surveys had shown that there are lots of people who work in the culinary business industries in *Seberang Kota Jambi*, and even though they were not managed professionally they had survived for quite some time. This study aimed to test the relationship between personal attributes, technical skill and managerial competence toward entrepreneurial orientation and successes. The data were collected through the questionnaire for 44 people who owned small culinary businesses in several districts in *Seberang*, then were analyzed using Partial Least Squares Path Modeling (PLS-SEM). The result had shown that the personal attributes and technical skills have no siginificant influence on the entrepreneurial orientation, but their managerial competence had a significant influence on their entrepreneurial orientation. Then the entrepreneurial orientation have positive influence on the success of business. So in a way, the managerial competence determine their success in business. That's why it was needed a lot of help from the government and academicians to increase their managerial competence by giving them special guidance, counselings and trainings continuously.

Keywords:*personal attributes, technical skills, managerial competence, entrepreneurial orientation, culinary home industries.*

INTRODUCTION

In the midst of the rapid flow of competition in goods and services as in the current situation, competitiveness can no longer rely solely on the wealth of natural resources, low wages of labor and other non-renewable resources. The economic structure has shifted from natural resource-based economy towards human resources-based called creative economy. This means that the creative economy is strongly supported by information and creativity in the form of ideas and knowledge of human resources. The implementation of creative economy concept in Indonesia aims to improve the domestic industry, especially small and medium industries commonly known as Small and Medium Enterprises (SMEs). The successful implementation of the creative economy will be realized if there is synergy between government, business and academia (http://www.bekraf.go.id/profil/tugas).

Across the city of Jambi which is the center of Jambi indigenous people also do not want to miss in stimulating the creative economy. Local government support is obvious, with many established craft centers, such as the center of Jambi batik, hand embroidered centers, crackers centers and various other centers. But there is a center that has not been much touched, the traditional culinary centers such as cake craftsmen rocking, maximal cake, 8-hour cake, gandus cake, apam, putu, jando bergoyang, sumping soil and other pastries. They exist, but their existence is not traced. This is

because their business is still traditional. Their potential for growth is quite wide open, given the cakes they make are delicious, different flavors of the modern cake, using natural ingredients and preservative-free.

From the initial survey conducted showed that their numbers are quite large and spread in eleven villages along Seberang City. The effort they do generally involves the family and has been running for a dozen years. They are actually creative economic actors who have a creative idea to keep the traditional traits in the midst of community behavior that tends to side with western cuisine such as pizza hut, hamburger, dunkin donut, papa bread and others.

There is one interesting phenomenon of the personality of the traditional cake entrepreneurs They persisted despite sales growth on a stable chart. The high harvest will be enjoyed only during Ramadan and Idul Fitri, the rest is stable and only produce based on order. They have a high self efficacy that their cake will be sold out because of the belief that every business will have its sustenance.

Referring to the opinion of Hellriegel et al. (2016) , the success of self-employment is influenced by personality attributes, technical skills and managerial competence. Atirbut personality includes characters who have " need for achievement ", desire to be free (desire for independence), confidence (self-efficacy) and are willing to sacrifice (self-sacrifice). Technical skills have a meaning to understand the field of business that they do. For example the traditional culinary entrepreneur, then he must understand about the world of traditional cakes, ranging from recipes to creativity in processing. Managerial competence includes the ability to plan and strategize, cooperate, communicate and manage oneself (self management). Hellriegel et al. (2016) also affirms that entrepreneurs are not born , but are formed. Because the development of personality with the ability to adapt to the environment that causes the entrepreneurial spirit was formed, not because of being born as a factor of heredity or talent. There are indeed entrepreneurs who only continue the efforts of previous generations, but if they do not have the personality attributes of entrepreneurship, technical skills and managerial skills, then the effort will slowly crumble. As the phrase is often heard, that the first generation finds, the second generation enjoys and the third generation destroys.

Another opinion about the factors that influence the success of self-employment is proposed by Nicolas (2009). Nicolas (2009) shares the factors that influence entrepreneurship into internal and external factors. Internal factors include firm size, stakeholder personality, educational background (owner and worker), and corporate culture. Meanwhile, external factors include national culture, a country's economic system, regional economic integration, and people's purchasing power. Furthermore, Nicolescu (2009) stated that internal factors more influence SME’s performance than external factors by considering the economics scale of SME’s. The combination of external and internal variables can be an example of how it can affect the survivability of MSMEs.

Base on combining the two opinions, then in this study will use the attributes of personality, technical skills and managerial competence as a factor that affects the success of self-employment. However, the success of entrepreneurship will also be influenced by carefulness to respond to changes in the external environment as reflected in the courage to take risk, speed and flexibility and never give up, or known as the concept of entrepreneurship orientation (Debbie et al., 2001). The entrepreneurial orientation emphasizes the spirit to create business innovation, as a refresher of business congestion, often accompanying the initial step of innovation (Zhou et al . 2005). Therefore, the attributes of personality, technical skills and managerial competence will affect the entrepreneurial orientation and the success of the business.

Referring to the results of previous studies and origin of the fact initial survey results showing that entrepreneur unique culinary Jambi still doing business the traditional way, it is felt necessary to test more about the factors that affect the success of the entrepreneur and how the mechanism of factors it can affect the success of self-employment. By knowing the factors and how the mechanism of these factors affect the success of self-employment, is expected to provide input to improve the success of their business. The success of the entrepreneurship of one of the culinary sub-sectors, is expected to be transmitted to other entrepreneurs, so that the traditional culinary home industry develops and ultimately will drive the creative economy of culinary sub-sector and other sub-sectors.

METHODS

This research is quantitative because it wants to test the correlation between personal attribute, technical skill and managerial competence to entrepreneurial orientation and linkage between entrepreneurship orientations with home industry success. The main data in this study is primary data obtained directly by distributing questionnaires to selected respondents.

The number of samples is determined based on the Kretjie table using 5% significance level of 44 people. The sampling technique used in this study is proportional cluster sampling distribution . The sample taken is based on the domicile of the business unit concerned .

Measurement of each variable based on indicators with reference to previous research (Table 1).

Tabel 1. Concept and indicator variable

Variable	Concept	Indicator
Personal Attribute (X1)	The character or characteristics possessed by the business owner is a strong driver from within himself for entrepreneurship and consistent in running his business.	The desire to excel The desire to be free Confidence Want to sacrifice
Technical Skill (X2)	A knowledge and technical skills possessed by the entrepreneur about the cake he made	Know the cake history Know the recipe Know technical make cookies
Managerial Competence (X3)	Managerial abilities owned by the entrepreneur in running his business	Have a plan and strategy Cooperate Communication Self Management
Entrepreneur Orientation (Y1)	The spirit to create business innovation, pro-active, willing to take and manage risk.	Innovative Proactive Willing to take the risks Risk Management
Home Indutry Successfull (Y2)	The degree to which an entrepreneur is able to achieve something in accordance with what he wants	Profit Number of customers Competitiveness Develop a good image Business Income

Source: Hellriegel et al. (2016)

To obtain the primary data compiled research instrument in the form of questionnaires n compiled in the form of a closed statement. Questions or statements arranged in the questionnaire are in the form of multiple choices using Likert scale 1-5 . Choice 1 indicates strongly disagree whereas option 5 indicates strongly agree.

Then data analyzed using Partial Least Square (PLS), which is a powerful analytical method because it can be applied to any data scale, does not require many assumptions and the sample size does not have to be large .

RESULTS AND DISCUSSION

Description of Respondents

Respondents were randomly selected from culinary entrepreneurs scattered across Seberang Jambi City with the criteria of having been in business for at least two years. Respondents were selected by chance all of female effort pastries (Bangkit, Kembang Goyang and Semprong) and traditional cakes (Putu, Apam, Gandus, Bolu Kemojo, Padamaran, Kue Lapis Ketan and a variety of traditional cakes more) as many as 32 people (72.73%) and crackers as many as 12 people (27.27%).

Based on Education level, most of entrepreneurs were primary school graduated as many as 19 people (43.18%), high school graduated as many as 18 people (40.91 %) and the rest 7 people graduated from junior high school (15.9%). Of the age range, 20 people (45.46%) were aged 40-49 years old, 12 people (27.277%) were aged 50-59 years, 7 people (15.91%) were aged 30-39 years and the remaining 5 people (11.36%) aged 60 and over.

This fact indicates that the interest in the culinary business is dominated by the older generation earlier just graduated from elementary school had the opportunity to school and mothers who do not have the opportunity to enroll in the higher level. Most of them running theirs business since a dozen years with recipe from the family derivation heritage. From the result of the respondent's answer, only 5 people (11%) stated that they chose this business as the main search while the remaining 39 people (89%) reasoned to get additional income beside their husband's income as the head of the family.

Validity and reliability test

Convergent validity

An indicator is said to have good reability, if the outer value of loading is above 0.70 (Sarwono, 2014). From table 2 it can be seen that the value of cross loading between indicators with their constructs to measure each variable as follows:

1. The variable x1, for the indicator x1.1, x1.2 and x1.3 is worth above 0.70 while x1.4, x1.5, x1.6, x1.7 and x1.8 are valued below 0.70 so the four indicators are excluded from the model.
2. Variable x2, for indicator x2.6 worth above 0.70 while x2.1, x2.3, x2.4 and x2.5 are valued below 0.70 so that the five indicators are removed from the model.
3. Variable x3, for indicators x3.4 and x3.5 are worth above 0.70 while x3.1, x3.2, x3.7, x3.9 are valued below 0.70 so that the seven indicators are excluded from the model
4. The y1 variable, for indicators y1.2, y1.3, y1.4, y1.5 is worth above 0.70 while y1.1 and y1.6 are valued below 0.70 so that the two indicators are excluded from the model.
5. The y2 variable, for indicators y2.1, y2.2, y2.3 is worth above 0.70 while y2.5, y2.6, y.7 and y2.8 are valued below 0.70 so that the five indicators is removed from the model.

Table 2. Outer loading value

	X1	X2	X3	Y1	Y2	Remark
x1.1	0,790					Valid
x1.2	0,876					Valid
x1.3	0,876					Valid
X.18	-0,368					Not valid
X1.5	-0,117					Not valid
X1.6	-0,543					Not valid
X1.7	0,378					Not valid
X14	0,055					Not valid
X2.1		-0,631				Not valid
X2.2		0,523				Not valid
X2.3		-0,102				Not valid
X2.4		0,485				Not valid
X2.5		-0,059				Not valid
X2.6		0,760				valid
X3.1			0,198			Not valid
X3.2			0,306			Not valid
X3.3			0,632			Not valid
X3.4			0,866			Valid
X3.5			0,928			Valid
X3.6			0,594			Valid
X3.7			0,267			Not valid
X3.8			0,604			Not valid
X3.9			-0,203			Not valid
Y1.1				0,449		Not valid
Y1.2				0,891		Valid
Y1.3				0,932		Valid
Y1.4				0,900		Valid
Y1.5				0,927		Valid
Y1.6				0,288		Not valid
Y2.1					0,883	Valid
Y2.2					0,877	Valid
Y2.3					0,814	valid
Y2.4					0,414	Not valid
Y2.5					0,270	Not valid
Y2.6					0,442	Not valid
Y2.7					0,331	Not valid
Y2.8					-0,259	Not valid

Source: Research Result

Here is the model picture along with the value of cross loading after issuing the indicator which is valued below 0.70:

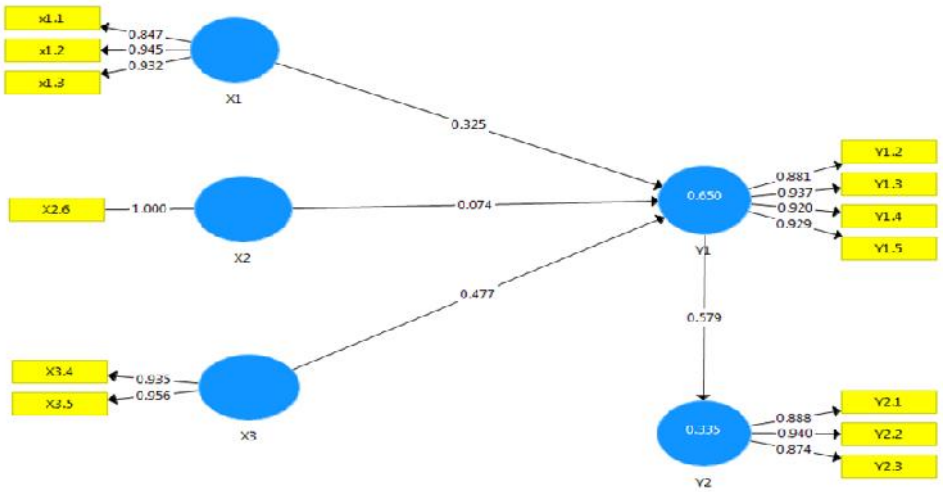

Figure 1. Model by cross loading above 0.70

Next, outer loading value of the model:

Table. 3 Outer loading value of second model

	X1	X2	X3	Y1	Y2
x1.1	0,847				
x1.2	0,945				
x1.3	0,932				
X2.6		1,000			
X3.4			0,935		
X3.5			0,956		
Y1.2				0,881	
Y1.3				0,937	
Y1.4				0,920	
Y1.5				0,929	
Y2.1					0,888
Y2.2					0,940
Y2.3					0,874

Source: Research Result

Discrimant Validty

The first criterion for measurement discriminated validity can be seen on cross loading between indicator and construct. Here's the cross loading table.

Table. 4. Cross loading

	X1	X2	X3	Y1	Y2
x1.1	0,847	0,646	0,614	0,549	0,667
x1.2	0,945	0,564	0,707	0,724	0,706
x1.3	0,932	0,538	0,667	0,675	0,703
X2.6	0,633	1,000	0,763	0,644	0,515
X3.4	0,798	0,746	0,935	0,654	0,589
X3.5	0,604	0,703	0,956	0,792	0,337
Y1.2	0,584	0,428	0,510	0,881	0,584
Y1.3	0,712	0,509	0,701	0,937	0,570
Y1.4	0,589	0,615	0,760	0,920	0,375
Y1.5	0,735	0,775	0,827	0,929	0,579
Y2.1	0,656	0,337	0,437	0,621	0,888
Y2.2	0,686	0,487	0,382	0,446	0,940
Y2.3	0,717	0,611	0,462	0,456	0,874

Source: Research Result

From table 4 it is seen that the correlation of the construct between business orientations with the indicator is higher than the correlation of other construct indicators that is personality attribute, technical skill, managerial competency, home industry successful. This suggests that latent constructs predict indicators on their blogs better than other blog indicators.

Second criteria for discriminates validity is by comparing the roots of Average Variance Extracted (Fork AVE) is a Fornell Larcker value for each construct with a correlation between constructs with other constructs in the model. Model has discriminant validity that is enough if value Fornell Larcker for each construct is greater than the correlation between the other construct constructs. The following table is Fornell-Larcker Criterion.

Table 5. For.nell-Larcker Criterion

Variable	X1	X2	X3	Y1	Y2
X1	0,909				
X2	0,633	1,000			
X3	0,731	0,763	0,946		
Y1	0,721	0,644	0,771	0,917	
Y2	0,760	0,515	0,476	0,579	0,901

Source: Research Result.

Based on the value Fornell Larcker can be seen that all the value is greater than the value of correlation between latent variables then the outer model is valid. The following table is Average Variance Extracted (AVE).

Table 6 Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)
X1	**0,827**
X2	**1,000**
X3	**0,895**
Y1	**0,841**
Y2	**0,812**

Source: Research result

Based on Average Variance Extracted (AVE) can be seen all above 0,5 means valid outer model so no longer need to eliminate indicator variable and can be continued inner model analysis (structural model).

Reliability test

In addition to construct validity test also conducted testing of reliability of the constructs measured by two criteria, namely: Cronbach 's Alpha and Composite Reliability . This value reflecting the reliability of all indicators in the model. The minimum value value is 0.7 is ideally 0.8 or 0.9. Otherwise, to Cronbach's Alpha composite also used on interpretation of composite reliability who equal in Croach's Alpha. The value of Cronbach 's Alpha and Composite Reliability and its graphs in this study can be seen in table 7 below:

Table 7. Cronbach’s Alpha and Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability
X1	**0,895**	**0,934**
X2	**1,000**	**1,000**
X3	**0,883**	**0,944**
Y1	**0,937**	**0,955**
Y2	**0,886**	**0,928**

Source: Research Result.

In Table 7 it appears that all the indicator variables has Cronbach 's value Alpha and Composite Reliability above 0.7 so that the outer model is declared reliable.

Evaluation inner the model and structural equation model

The inner model evaluation is to test the significance of the latent independent variable or to test the hypothesis. The statistical t-value becomes the size of the assessment via resampling with bootstrapping. Re-sampling is a way of multiplying data from existing samples that meet statistical rules.

The research model with bootstrapping technique can be seen as follows:

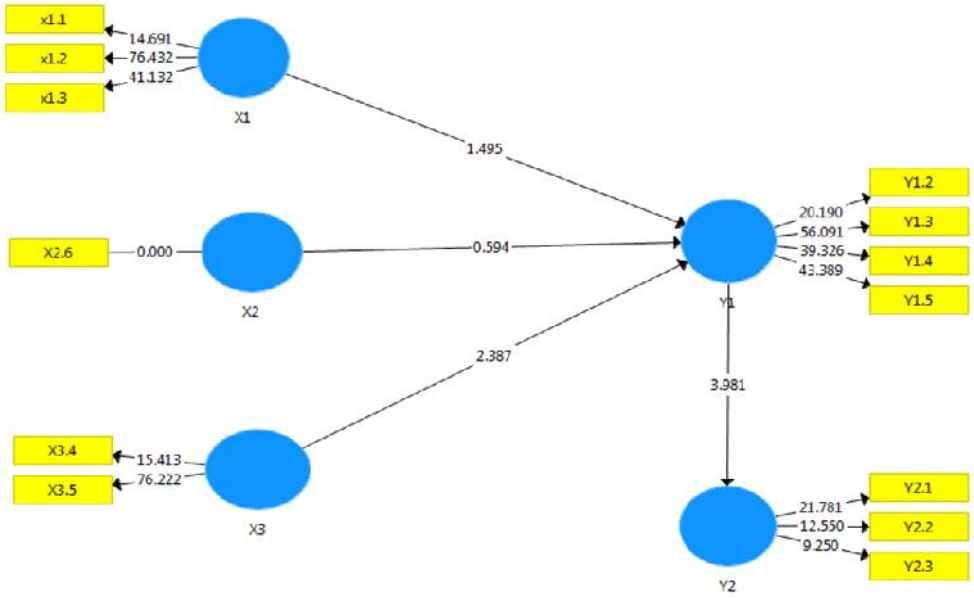

Figure 2. Final model

Next, mean, standard deviation, t-values and P-values as follow:

Table 8 Original samples, mean, standard deviation, t statistics and P values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 -> Y1	0,325	0,331	0,218	1,495	0,135
X2 -> Y1	0,074	0,069	0,124	0,594	0,553
X3 -> Y1	0,477	0,492	0,200	2,387	0,017
Y1 -> Y2	0,579	0,620	0,145	3,981	0,000

Source: Research Result.

To hypothesis test is done by comparing the value of t statistics with t-table or compare P value at significance level α = 5%. The number of samples are 44 respondents then t-table (df=n-k, 44-5=39) is 2.022. If t-arithmetic is greater than t-table and P-value less than 0.005 then hypothesis is accepted. The following table recapitulation of hypothesis result test.

Table 9. Recapitulation of Hypothesis Test result

	T Statistics (|O/STDEV|)	T table (df=39, α=5%)	P Values	Result
X1 -> Y1	1,495	2,022	0,135	Rejected
X2 -> Y1	0,594	2,022	0,553	Rejected
X3 -> Y1	2,387	2,022	0,017	Reviewed
Y1 -> Y2	3,981	2,022	0,000	Received

Source: Research Result

Remark:
X1 **:** Personality Attribute
X2 **:** Technical Skill

X3 **:** Managerial compotency
Y1 **:** Entrepreneur Orientation
Y2 **:** Home industry successfull

From table 9 it is seen that the one hypothesis that states there is a positive and significant influence between the attributes of personality to the orientation of entrepreneurs rejected. This means that personality attributes have no significant positive effect on entrepreneurial orientation. Likewise with the second hypothesis that there is a positive and significant influence between technical skills and entrepreneurial orientation is also rejected. This means that technical competence also has no significant positive effect on entrepreneurial orientation. The third hypothesis that states there is a positive and significant influence between the managerial competences of entrepreneurial orientation is accepted. This means that the higher the managerial competence the higher the effect on the entrepreneurial orientation. The fourth hypothesis that there is a significant positive influence between entrepreneurial orientation and business success is accepted. This means that the higher the entrepreneurial orientation the higher the success of the business.

Discussion

The results of statistical tests show that of the four hypotheses proposed there are only two accepted hypothesis, the remaining two hypotheses again rejected. In other words, among the variables of personality attributes, technical competence and managerial competence that are suspected to have a significant positive effect on entrepreneurial orientation , only managerial competence has a significant positive effect . Although conceptually these three variables have a significant positive effect on entrepreneurial orientation, but the results of statistical tests based on respondents' answers denied it.

This finding becomes interesting because there is a difference of context between conceptual and factual in this research. The fact that the respondents in this study are the mothers who entrepreneurship is dominated because they want to just get extra income with armed with technical skills to make culinary pickup derived from family derivatives, without any special education about culinary and entrepreneurship. They also sell their products passively, in the sense that passively awaiting the arrival of the buyer and in general their buyers are old customers . Even if there are new customers , they are the ones who come by chance or who get word of mouth recommendations through old customers . The cakes they make do not change from time to time, in the sense they retain their traditional self-esteem. This condition causes why attributes of personality and technical skills have no significant effect on their entrepreneurial orientation.

However, behind all these facts, they have a high confidence for continuity of business even though not progressive. This condition causes entrepreneurial orientation to be heard by managerial competence. By having the ability to manage the resources owned by indicated by having a plan and strategy though simple, able to work together and communicate with customers who come and able to manage they to keep production despite sales stagnant, hence it will affect of entrepreneurs orientation which indicated into innovative behavior , proactive and willing to face and manage risk. The higher the managerial competence possessed the higher the entrepreneurial orientation. Having a high entrepreneurial orientation will influence the increase of culinary business success as indicated by the increasing number of customers,

competiveness, the awakening of good image in the eyes of the customers and the increase of operating income and profit.

Thus, if the culinary business wants to improve the success of its business then it must first improve the orientation of entrepreneurship in the field of culinary and improve the managerial competence of culinary craftsmen.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

From the results of statistical tests can be concluded that the attributes of personality and technical skills have no significant effect on the orientation of entrepreneur, meanwhile managerial competency has significant positive effect on entrepreneurial orientation and entrepreneurial orientation significant positive effect on business success. This means that the higher the managerial competence will be higher also the effect on entrepreneur orientation and the higher of entrepreneur will be the shrub in high success its business .

Recommendations

To increase the success of the culinary business, the first things to do is increase the orientation of entrepreneurship in the culinary field and improve the managerial competence of the culinary craftsmen. To make it happen, it needs the support of various parties, both academics and related institutions to provide continuous training and assistance in the field of management of small and entrepreneurial enterprises. From self craftsmen's also need to continue to improve self-competence and follow the development of consumer tastes without leaving the uniqueness of the product.

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Factors that influence the increase of *Eucheuma cottonii* Seaweed farmers' income in Bantaeng, South Sulawesi

Ikawati Karim [1]; Rusni Fitri Y.Rusman [2]; Ariady Arsal [3]

[1] West Sulawesi University
[2] STIPER YAPIM Maros
[3] Hasanuddin University

Correspondence e-mail: ikawati@unsulbar.ac.id

Abstract.
Seaweed is one of the marine production that authentically potential to be increased its production in quantity and quality. In economic side, it is not only for country's foreign exchange earnings but also for a source of income to the seaweed farmers. The aims of research were to elaborate the influencing use of seed, number of labor, and farming experience on seaweed production in Bantaeng Regency and to analyze the influencing production to the farmers' income. The research was conducted in Bantaeng Regency and the data were obtained through observation and structured interview. The samples were selected purposively consisting of 94 seaweed farmers using cobb-douglas and simple linear regression analysis. The results of the research indicated that; (a) regression coefficient variable in use of seed had influence to the increased of seaweed production but regression coefficient variable number of labor didn't has influencing to increased seaweed production. For regression coefficient variable of farming experience also had influence to the increased seaweed production.Cobb-Douglas analysis indicated that production function in factors use of seed, number of labor and farming experience had significantly affected to the seaweed production. In simple linier regression analysis, regression coefficient of seaweed production variable explained if seaweed production increases, farmers' income would be increase too.

***Keywords** : Seaweed, Cobb-Douglas, Production, Farmers' Income.*

INTRODUCTION

Seaweed as a marine resource has great potential to be developed in improving the income of coastal villagers in this case seaweed farmers. In addition, seaweed industrialization plays a strategic role as integrated activity in cultivation management, seed availability, socio-economic, post-harvest processing, capital dan marketing (Daryanto, 1997)

There are wide range of using seaweed. Seaweed are used as human foods (alginate drinks, jelly candy, seaweed drinks, gelatine), medicine substance, animal feed, plant and soil fertilizer. Seaweed derivative products are also used for textiles, paper, paint, cosmetics, laboratory materials, toothpaste, ice cream and many more (Daryanto, 2007). Based on these benefits, seaweed has a potential for overseas market (Pusdata Kemendag, 2012).

Indonesia as one of the seaweed main producer has been able to fill about 60 – 70 % of the seaweed world market. Seaweed becomes a high-value product which continue improving its development. There was 1.190.000 hectares of Indonesian seaweed

potential development and recently only 222.180 hectares or about 20 % of total area that has been used (Anggadireja, 2007).

South Sulawesi becomes one of seaweed main producer in Indonesia. The extensice land of this province has supported seaweed development. Seaweed production in South Sulawesi has reached 670.740 tons as wet product or equal to 63.074 tons as dry product in percentage it is predicted about 36.5%. In addition, increasing seaweed production is possible to maximize because South Sulawesi has large marine area as resource land and then seaweed has gradually simple in technology using and post-harvest processing as well as only needs less capital in cultivating (Harifuddin, 2011).

The development of *Echeuma cottonii* seaweed in Bantaeng Regency becomes an important concept of local government in order to increase living standard and income of coastal villagers or seaweed farmers. Seaweed began to be cultivated by farmers in Bantaeng since year of 2000 until now (Department of Marine and Fisheries of Bantaeng, 2011).

Bantaeng Regency as one of many regencies in South Sulawesi has developed the cultivation of seaweed species *E. cottonii*. Bantaeng is located on the coastal edge of Flores to the mountains of Lompobattang with altitude of 1.000 meters and coastline length of ± 21.5 kilometers. Seaweed cultivation location is located on the coast of 100 to 3.000 meters with depth of 1 to 20 meters (Department of Marine and Fishery of Bantaeng, 2014).

Production is a process that produces goods and services by using two or more goods or services. That statement gives an understanding that to produce a certain commodity needed two or more factors of production. Soekartawi (2001) states that the factor of production management becomes important in terms of efficiency. High production will not be achieved if factors of production failed to manage.

Contributing factors to ability and development of production are determined by; (1) land production factors, (2) the number of labor, (3) capital production factors, (4) intelligence and skill factors, (5) Used in production, and (6) local climate and season (Soekartawi, 1995). The quantity and quality of agricultural product depends on the given input state. So that, between input and output there is a close relationship (Kartasaputra, 1989).

The number of seaweed production in Bantaeng Regency fluctuated from year to year in which dry production was reaching 6,834.33 tons per year. The occurrence of fluctuations in seaweed production was caused by several factors such as limited production facilities, the use of seed, a relatively short maintenance time, not maximal drying or in other words, the knowledge of farmers on seaweed was still very limited and land use was still not maximized. Therefore,this study aims to analyze factors that influence the increase of *Eucheuma cottonii* seaweed farmers's Income in Bantaeng, South Sulawesi.

METHODS

The research was conducted from September 2014 to May 2015, in Bantaeng Regency, South Sulawesi Province. This location was chosen purposively with the consideration that the area was the development area for cultivating seaweed species *E. cottonii*.The first and the second problem of the research used population of seaweed farmers which scattered in Bisappu, Bantaeng and Pajukukang District as central production of *E.cottonii.* Number of seaweed farmers as the total population in the study were 1.632 people. The number of samples was determined by using Slovin formula,

thus the number of samplesused in this research were 94 seaweed farmers. Sampling research used simple random sampling technique that was taken randomly.According to the aims, this research was including explanatory research. The research aims to analyze the relationship between one variable with other variables or how a variable affects to other variables. Variable of research is formulated by using quantitative method which was supported by qualitative descriptive analysis. The data were conducted by interviewwith using questionnaire. The first formula was used to analyze use of seed, number of labor and farming experience on seaweed production using *Cobb Douglas analysis with formula:*

$$Log\ Y = Log\ a + Log\ b_1X_1 + Log\ b_2X_2 + Log\ b_3X_3 + Log\ b_4X_4 + e \quad (1)$$

Where :Y = Seaweed production (kilogram)
X_1 = Use of Seed (kilogram)
X_2 = Number of Labor (person)
X_3 = Farming Experience (year)
a = Constanta
b1…b3. = Coefficient of Regression
e = *Error Term*

the second formula is used to analyze the effect of seaweed production on farmers' income by using simple linier regression with formula :

$$Y = b_1X_1 + e \quad (2)$$

Where: Y = Seaweed Farmers' Income (IDR)
X = Seaweed Production (kilogram)

RESULTS AND DISCUSSION

Analysis of Seawood production function

Understanding the relationship of causal factors in the production of seaweed in the production function of cobb-douglas among use of seed (X1), number of labor (X2) and farming experience (X3) towards the production of seaweed was obtained the following results in the Table 1:

Table 1. Estimation of Seawood production function

Independent Variable	Dependent Variable	Coeffisien of Regression Beta	Coeffisien of Correlation (r)	T_{count}	Sig.	A
Constanta	Y	-0,149				
X_1		1,087	0,851	15,379	0,000	significant
X_2		-0,032	-0,101	-0,961	0,339	unsignificant
X_3		0,028	0,222	2,161	0,002	significant
Multiple R = 0,877; R_{Square} = 0,770; F_{Sign} = 0,000; F_{Count} = 100,370						

Note : Significant at α = 0,05.

Table 1 showed the results of analysis of variables production function X_1 (use of seed), X_2 (number of labor) and X_3 (farming experience) to variable Y (seaweed production). Use of seed (X_1) at 5% significance level at T table was equivalent with1.990, because the value of T count smaller than T table (15,379> 1,990) and significance value 0,000 higher than 0,05. It can be concluded that the use of seed individually influencedseaweed production. Number of labor (X_2) at the level of

significance 5% T table value was equivalent with 1.990, because the value T count smaller than T tabel (-0.961 <1,990) and significance value of 0.339higher than 0.05, it can be concluded that the number of individual labor did not influence of the seaweed production. Farming experience (X_3) significance at level 5% where T table value was equivalent with 1.990, because the value of T count higher than T table (2,161> 1,990) and significance value where 0,002 smaller than 0,05. Hence, it can be concluded that farming experience individually influence to the seaweed production.

Analysis of farmers' income Seawood

The influence of the seaweed production to the farmers' income in Bantaeng Regency was done through a simple linear regression analysis in which the results obtained in Table 2 below:

Table 2. Estimation of farmers' income Seawood

Independent Variable	Dependent Variable	Coeficien of Regression (B)	Koeficien of Correlation (r)	T_{count}	Sig.	A
Constanta X	Y	1344660,430 13407,849	0,991	69,964	0,000	significant
R = 0,991; Rsquare = 0,982						

Note : Significant at α = 0,05

Table 2 showed results of simple linear regression analysis of seaweed production function (X) to farmers' income (Y) showed that regression coefficient of independent variable so that can be formed simple linear regression equation that was: Y = 1344660,430 + 13407,849X from simple linear regression equation, value a which was a constant of 1344660,430. This showed that if the variable value of seaweed production is 0 or none then the farmers' income will be valued with 1.344.660,430 IDR. The regression coefficient of seaweed production variables (X) was 13407,849. It meant thatif theseaweed production increase, the farmer's income would be increase with 13.407,849 IDR.

The regression coefficient value of each independent variable affected to the seaweed production in Bantaeng Regency. This result explained that the regression coefficient of varieties of use of seed (X_1) was 1.087 which meant use of seed giving effect. If use of seed increased by one kilogram, seaweed production will also increase with 1,087 kilograms in dry seaweed, assuming other variables were constant. The regression coefficient of number of labor variable (X_2) was -0,032 which meant the number of labor had no effect. If the number of laborwas reduced by one farmer, seaweed production will decrease by 0,032 kilogram dry seaweed, in assuming the other variable was constant . Coefficient of variable regression of farming experience (X_3) was 0,028. It meant that duration tried to give influence. It meant that if farming experience increased by 1 year, seaweed production will be increased by 0,028 kilogram dry seaweed, assuming other variableswere constant.

The result of Cobb-Douglas production function analysis showed that jointly factor of use of seed (X_1), number of labor (X_2), and farming experience (X_3) had significant effect on seaweed production (Y) in Bantaeng Regency. According to Sulaeman (2006) said that seaweed business was expected to (1) build a robust seaweed agribusiness whose main actors are SMEs; (2) provide economic value added for seaweed commodities; (3) create jobs for people, especially the coastal villagers (4) increase the income and living standard of the seaweed farmers (5) increase the foreign exchange reserves. The regression coefficient of seaweed (X) is 13407,849, meaning

that the production of seaweed had an effect. If the production of seaweed was increased, the farmer's income will increase by 1.3407,849 IDR.

The effect of seaweed production (X) on farmers' income (Y) in Bantaeng Regency was calculated through simple linear regression analysis thatwas formed by the equation: Y = 1344660,430 + 13407,849X. From the simple linear regression equation, obtained a value of a constant was 1344660,430. It showed that if variable value of seaweed production was 0 value or none then the farmers' income will be value 1.344.660,430 IDR. The regression coefficient of seaweed (X) was 13.407,849 IDR which was production of seaweed had an effect. If seaweed production was increased, the farmers' income will be increase by 1.3407,849 IDR.

Simple linear regression was used to determine the relationship between seaweed production variables and farmers' income. The value of correlation coefficient (r) obtained for 0.991 which meant that there was a positive relationship between two variables. This was also proved by the value of T count (69,964)higher that T table (1,990) and significance value (0.000) smaller (0,05) which can be concluded that seaweed production variables (X) . It meant that the income of seaweed farmers in Bantaeng Regency depended on the amount of seaweed production.

The coefficient of determination (R^2) of 0.982 meant that this result indicated various of up and down of farmers' income as 98.2%. It was caused by the effect of seaweed production while the remaining 1.8% was caused by other factors. According to Soekartawi (1986) opinion, there are several measures of farm income, among others: (1) the gross income of the farm consists of the total product value of farming in a certain time that is sold or not sold, (2) net income of farming is the difference between farm gross revenues and total farming expenditures. Total expenditure of farming is all input value which is used in the production process, but includes own interest and interest on loan capital. The net income of the farming business is obtained by reducing the net income with loan interest.

CONCLUSIONS

The conclusions of this research were all production factors such as the use of seed, the number of labor, and farming experience significantly affect of seaweed farmers' income. The use of seed and farming experience individually affected the production of seaweed while the number of labor had no effect on seaweed production. Production of *E.cottonii* seaweed was significantly affecting farmers' income in Bantaeng specially in three disctricts at Bantaeng Regency as centrals of seaweed production.

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Economic feasibility analysis of agribusiness sub terminal in integrated agricultural program area

Wawan Tolinggi; Amelia Murtisari; Yanti Saleh; Ahmad Fadhly

Agribusiness Department, Faculty of Agriculture, Gorontalo State University

Correspondence e-mail : wawan.tolinggi@ung.ac.id

Abstract.
Agribusiness sub terminal development intends to enable the commodity handling system of the agricultural products covered by one agribusiness management. In addition, farmers and related stakeholders can gain benefits from the development of creating mutual prosperity. This research aims at; 1) analysing the feasibility of agribusiness sub terminal in integrated agriculture program area based on financial non-financial aspects, such as market, organizational management, technical operation, and social economy including technical side of agribusiness sub terminal; and 2) generating a policy in supporting the establishment of agribusiness sub terminal in integrated agriculture program area in Bone Bolango regency. This descriptive quantitative and qualitative research employs *mix method*, which consists of exponential comparison method, to determine the technical feasibility of agribusiness sub terminal in the integrated agriculture area in Bone Bolango regency. The results reveal that: (1) based on the technique of location determination exponential comparison method, decent sub-districts for the development of agribusiness sub terminal, in sequence, are Tapa, Suwawa, Kabila, and Tilongkabila; (2) From the analysis of economic feasibility of agribusiness sub terminal, Bone Bolango regency shows its worthiness and therefore has potential to advance further; (3) The most potential site is Tapa district; (4) Based on the financial feasibility, specifically the economic aspect, the prospect of, implementing agribusiness sub terminal is high in Bone Bolango regency.

Keywords: *Agribusiness Sub Terminal, Feasibility, Policy*

INTRODUCTION

Development paradigm that emphasizes on a large-scale infestation in city areas has failed in practice. This failure triggers the backwash effect from rural areas to cities and, as a consequence, changes in rural areas are inevitable. The example of such a case is the concept of agropolitan. This concept refers to the initiation of a rural area to provide city-class services to ease its farmers and citizen accessing their needs such as production and distributing crops as well as the access to supply for daily needs (Friedmann in Gore, (1985), in Rustiadi and Pranoto, (2007)).

One example of policy manifestation in grouping agricultural areas is the development of agribusiness sub terminal. The concept aims at diminishing the series of import regulation and mending the structure of market that is somewhat monopolist and put farmers at a disadvantage. A number of empirical studies conclude that the series of import regulation is quite long and unable to promote farmers' prosperity (Arifin, 2004

in, Lestari, 2012). Therefore, the agribusiness sub terminal is expected to solve the problem and may be beneficial to farmers. Munawir (2009 in Lestari, 2012) adds that the agribusiness sub terminal will connect sellers and customers in person and, in consequence, elevate farmers' bargain power in controlling prices of agriculture commodity. Moreover, the presence of the agribusiness sub terminal is proposed to solve some issues, such as commodity-related problem, site of production, and access to information. Agriculture commodity is generally prone and so requires farmers to sell it immediately. Relatively remote production sites lead farmers to the problem of accessing transportation. Moreover, insufficient information on price, quality, and quantity needed by consumers might be abused by the marketing bodies that deal with the farmers (Munawir, 2009 in Lestari, 2012). This result is echoing to the study by Edward and Shulzt (2005). They argue that Agribusiness refers to the shift from market centralization whereas the activities of marketing will be effective for the consumers. This shift requires a wider and fundamental concept; that is also discipline, integrated, and continuous.

In 2015, Gorontalo province assigned five integrated agriculture sites to turn those sites further to be *intercropping*-oriented and livestock-oriented. This is based on the prospectus of an integrated agriculture area, such as the condition of the soil, the availability of wellspring, human resources, site accessibility, and tools of production. Furthermore, integrated agriculture is a system that assimilates a number of business units which are organized in an integrated and ecological-oriented manner. This aims to increase the economic value, efficiency level, and high productivity. One of those areas is Huluduotamo village with corn plants, horticulture, animal husbandry, and freshwater fisheries as its commodity priority.

The results by Canon et.al with State Agency for National Development (Bappeda) Bone Bolango regency (2016) report that Gorontalo is on the 13th rank for the commodities, such as (1) corn; (2) coconut; (3) palm coconut; (4) capture fishery; (5) cattle; (6) *kur* chicken; (7) cloves; (8) cane; (9) rice crop; (10) chilli; (11) coffee; (12) palm tree; (13) cacao. The rank is based on the indicator of superior commodity assessment through a comparative method in Gorontalo province. The economic structures of Bone Bolango regency consist of four main sectors, namely agriculture, animal husbandry, forestry, and fishery. The contribution of these areas to Gross Domestic Regional Product is placed on the first rank compared to other business (State Agency for National Development, Bappeda, Bone Bolango). In other words, Bone Bolango has market potential for the development of these four sectors. Problems regarding providing system of managing agriculture commodity, animal husbandry, fishery, and forestry are in line with the improvement of farmers' welfare. Additionally, in 2015, the government of Gorontalo province established Bone Bolango regency as one of the five integrated agriculture sites in the Gorontalo province.

Among a number of issues on developing agriculture sites in Bone Bolango regency, the lack of farmers' bargain power is the determining factor of the quality of the commodity. Farmers are unable to set the commodity price due to the absence of the warranty of the commodity product. Products from other competitors have a lower price but with high quality make the matter even worse. Consequently, a solution is needed to prepare farmers to compete with a better standard commodity with a decent price.

Another issue of the four sectors of the marketing is the long series of marketing from the farmers to the *user* or consumers. This leads to inefficient marketing because the marketing margin is getting more complicated. On top of that, the price for the farmers is lowering and affecting the income as well. The issue of time also involves in the long series of marketing since the agriculture products are naturally less durable. These impacts to farmers' loss for its lowering price. Incompetent facilities (transportation, hygiene of distribution site, and access to information), as well as marketing management, is a problem in the system of agriculture commodity, animal husbandry, forestry, and fishery. Providing better facilities is necessary to distribute information to all people.

Such a condition turns to be the background of modern market concept widely known as agribusiness sub terminal. The aims of agribusiness sub terminal is to increase the pricing set for the farmers and as a medium for accommodating the needs of business practitioners, such as the media and infrastructure, packaging, storage, washing service, and commodity auction. Moreover, farmers and Agribusiness practitioners can exchange information with each other.

The agribusiness sub terminal intends to enable the commodity handling system of the agricultural products covered by one agribusiness management. This contributes to the prosperity of farmers and related stakeholders. This study is to analyze the feasibility of agribusiness sub terminal in Bone Bolango regency, determine factors of its feasibility, and the application of agribusiness sub terminal development model in integrated agriculture area Bone Bolango regency.

METHODS

This study employs descriptive quantitative and qualitative which consists of two sources of data, the primary and secondary data. The qualitative approach is used to analyze the production centers and commodity marketing in the integrated agriculture area Bone Bolango regency. Furthermore, the quantitative approach is employed to review economic aspects and the feasibility of the attempts of agribusiness sub terminal. Selecting agriculture commodity marketing body and interviewees related to Agriculture Sub Terminal in Bone Bolango regency are due through purposive sampling. Primary data are obtained from direct observations, *focus group discussion* (FGD), in-depth interviews, and by giving questionnaires to the stakeholders. The secondary data include books, scientific journals, previous research reports and literature from a number of stakeholders. This study employs the (1) exponential determinant method while the exponential comparison method is due in determining the site of agribusiness sub terminal. The exponential comparison method is one of the decision-making methods which quantify argument from a person or more to certain extent. This is a method of scoring choices. The exponential calculation allows classifying differences between criterion based on the capability of assessors. Procedures of the exponential comparison method are: a) Determine alternative decision, b) Arranging decision criteria that will be reviewed, c) Determining relative importance criteria of each decision by using a specific conversion scale according to the needs of decision-makers, c) Determine relative importance criteria of each alternative decision, and 5) Ranking the obtained value of each alternative decision.

Following is the formula of scoring for each alternative strategic site in Bone

Bolango regency based on exponential comparison method :

$$TN_i = \sum_{j=1}^{m} (RK_{ij})TKK_j$$

Description:

TN_i :Total of the alternative value #i
RK_{ij} :Relative importance criteria #j on the decision option #i
TKK_j :Relative importance criteria of decision #j; TKKj > 0 ; integers
n :Number of decision choice
m : Number of decision criteria

Determining the level of importance of criteria is done through interviews with expert and brainstorming agreement. On the other hand, the alternative score on certain criteria is conducted by scoring each alternative according to its criteria. The bigger the alternative value, the bigger the alternative scores. The total score of each alternative decision will be relatively different in the real situation due to the exponential function. The exponential comparison method is helpful to lower the possibility of bias during the analysis. The value score that depicts the order of priority will be increased (exponential function). Ultimately, the order of alternative priority will be more realistic. (2) The feasibility analysis by using financial analysis is the basis for assessing the most profitable commodity.

The Financial Analysis on the aspect is namely, *NPV (Net Present Value), IRR (Internal Rate of Return), Gross B/C ratio, Net B/C ratio and PBP (Payback Period)* .

NPV = PV Gross Benefit – PV Gross Cost
Criteria : NPV (+) = Feasible
NPV (-) = Not feasible

$$IRR = i_1 + \left(\frac{NPV}{NPV_1 - NPV_2} \right) x\, i_2 - i_1$$

Criteria :
IRR > i (interest rate) = Profitable
IRR < i (interest rate) = Loss

$$Gross\ B/C\ Ratio = \frac{PV\ Gross\ Benefit}{PV\ Gross\ Cost}$$

Criteria :
B/C R > 1 = Profitable
B/C R = 1 = Break-even
B/C R < 1 = Loss

$$Net\ B/C\ Ratio = \frac{Total\ of\ PV\ Net\ B\ Positive}{Total\ of\ PV\ Net\ B\ Negative}$$

Criteria :
B/C R > 1 = Profitable
B/C R = 1 = Break-even
B/C R < 1 = Loss

$$PBP = T_{p-1} + \frac{\sum_{i=1}^{n} GJ_i - \sum_{i=1}^{n} \overline{B}_{icp-1}}{\overline{B}_p}$$

Description:

PBP = *Payback Period*

T_{p-1} = Year before PBP before PBP

I_I = Total of discounted infestation

$\overline{B}_{icp-1}$ = Total of discounted benefit before *Payback Period*

$\overline{B}_p$ = Total of Benefit during *Payback Period*

RESULTS AND DISCUSSION

Site determination method

The exponential comparison method is among several ways for determining the order of priority through multiple criteria decision making. The method is employed to use a well-defined model on the processing stage. The zoning found four strategic sites that are feasible as agribusiness sub terminal in Bone Bolango regency. Those are Suwawa district, Kabila district, Tilongkabila district, and Tapa district. The approach aims at deciding one of the four sites. The assessment is shown in Table 1.

Table 1. Assessment of strategic site determination on each indicator

No	Criteria	Value	Strategic Alternative Values			
			Suwawa	Kabila	Tilongkabila	Tapa
1	Easy to access the site	9	7	7	6	7.5
2	The availability of infrastructure and media	8	8	7	7	7.5
3	Policy and institutional support	8	8	7.5	7.5	8
4	Community's readiness and willingness	6	7	8	6	8.5
5	Government's readiness and willingness	7	8	8	8	8
6	Capital aspect	6	8	6	8	7.5
7	The availability of artificial resources	7	8	8	7	7.5

Source : analysis results, 2017

The result for each alternative value of each site is raised to (exponential function) with the value of each alternative site. This is based on the assessment of the agribusiness sub terminal sites with the value of the exponential comparison method. The result from the exponential function will be added to each of the alternative sites. Table 2 shows the calculation result of the site of agribusiness sub terminal in Bone Bolango regency according to the exponential comparison method.

Table 2. Calculation result of exponential comparison method

Number	Strategic Site	Exponential Comparison Method Value	Ranking
1	Suwawa	78.482.142.00	2
2	Kabila	60.632.809.50	3
3	Tilongkabila	29.083.289.50	4
4	Tapa	105.860.318.68	1

Source : analysis results, 2017

The ranking of four strategic sites of agribusiness sub terminal has been established based on the calculation. The sites are, in order of sequence, (1) Tapa; (2) Suwawa; (3) Kabila; (4) Tilongkabila. The exponential comparison method calculation infers that Tapa district has the potential for developing agribusiness sub terminal among other sites in Bone Bolango regency with the score 105.860.318.68. This is preceded by Suwawa district with score 78.482.142.00. These two sites score high on the aspects, such as policy and institutional supports, community's readiness and willingness. The government, through Spatial Zoning Plan Bone Bolango regency 2011-2031 number 8, emphasize that the sites have strategic values that contribute to the economic growth in the sector of industry (Tapa) and agriculture (Suwawa). On top of that, Tapa district in Bone Bolango regency has been established as the agricultural area of the organic commodity, whereas Huludutuamo village, based on the Governor's Decree number 96 / 20 / III / 2015, in Suwawa is the center for harvesting corn, horticultural crops, livestock husbandry, and fishery. This is echoing the results seen in Wibowo (2008) states that elements that support from solid institution and stakeholders, community's contribution, and reinforcements from the government will help continuously help agriculture activities

Analysis of business feasibility criteria

The feasibility analysis of agribusiness sub terminal which comprised of *Net Present Value* (NPV), *Internal Rate of Return* (IRR), *Net Benefit Cost Ratio* (Net B/C), and *Pay Back Period* (PBP) is due based on the cash flow forecast. The calculation of the analysis uses the assumption of *discounting factor* (DF) at 14 percent and tax at 10 percent on each year. The feasibility analysis is shown in the following Table 3.

Table 3. Analysis of criteria of agribusiness sub terminal feasibility

CRITERIA OF BUSINESS FEASIBILITY	VALUE	FEASIBILITY JUSTIFICATION
Net Present Value (NPV)	Rp.11.547.020.421	> 0
Internal Rate of Return (IRR)	16%	> 14%
Net Benefit Cost Ratio (Net B/C)	3.85	> 1
Pay Back Period (PBP)	1.9 Year	< 15 years

Source : analysis results, 2017

The criteria analysis of the feasibility of Sub Terminal Agribusiness in Bone Bolango regency is as follows:

a) The NPV value is Rp.11.547.020.421; in other words, the difference between the *present value* of the benefits and the *present value* can cover the used *social opportunity of capital*.
b) IRR is at 16 percent which means that the profit level of the net investment is bigger than the *discount* factor.
c) Net B/C is 3.85; this signifies that the profit outnumbers the cost.
d) PBP is 1.9 year; in other words, there is a need to conduct a project to return the investment and working capital that is lower than the duration of the project. From the results of the feasibility analysis, it is worth to implement agribusiness sub terminal in Bone Bolango regency

CONCLUSIONS

Agribusiness sub terminal in Bone Bolango regency plays a major role in agriculture commodity marketing. The Agriculture Sub terminal sites are promising to be developed because of its strategic agriculture production site. This cuts unnecessary operational costs and improving the quality and the sustainability of commodity supply and technical of marketing system that has been established in the regency. The strategic sites are four districts, namely Tapa, Suwawa, Kabila, and Tilongkabila. This is from the results of exponential comparison method in analyzing the determinant site. The most potential site is Tapa district with the value of exponential comparison method of 105.860.318.68. Based on the financial feasibility and its NPV of Rp.11.547.020.421, specifically, the economic aspect, the prospect of, implementing agribusiness sub terminal is high in Bone Bolango regency. In other words, the difference between the present value of the benefits and the present value of cost can cover the used social opportunity of capital. The profit level of the net investment is bigger than the discount factor with the IRR of 16 percent. The Net B/C of 3.85 signifies that the profit outnumbers the cost. The PBP will take 1.9 years, which means that the duration to carry out the project and to get the investment and working capital payback cost is shorter than the project duration.

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The geologic potentials of Riau Islands Province and its development design

Emi Sukiyah[1)]; Vijaya Isnaniawardhani[1)]; Adjat Sudradjat[1)]; Fery Erawan[2)]

[1)] Faculty of Engineering Geology, Padjadjaran University
[2)] Task Force Unit, Ministry of Public Works and Settlement, Riau Islands Province

Correspondence e-mail: emi.sukiyah@unpad.ac.id

Abstract.
Geologically Riau Islands is located in the topography of the old stadium erosion. The morphology is characterized by smooth hills with convex slopes and alluvial plain consisting of the erosion products. The morphology exhibits the remnants of peneplain that submerged at ca 13,000 BP now forming Sunda Shelf with the average depth of 120 meters. The irregular coast's line of almost all the islands in Riau Islands characterized the submerged old morphologic stadium. The lithology consists of granites and metasediments. Granites contain various types of economic minerals. The weathered granites produce bauxite, kaolin and quarts sands. The metasediments are generally soft resulting in the formation of valleys suitable for agriculture and settlements due to the availability of surface and subsurface water. Irregular coastal line provide the bays for harbors. The geological potentials to be developed therefore consists of the provision of stable plain and resistance to landslide and earthquake, the bays suitable for various marine industries, granites for building materials, and base metals. The submarine hydrocarbon basins produce oil and gas. Geologically Riau Islands is very unique because it represents the remnants of the peneplain of Jurassic and Cretaceous age of about 63 to 181 years old now becoming the Sunda shelf which is the largest in the world. This region is very good when developed as an industrial area, trade, and marine tourism

Keywords: Riau Islands, geologic potentials, granites, submerge, marine tourism.

INTRODUCTION

The Riau Islands Province is located in the most outer Northern territory of Indonesia. It is bounded by Vietnam, Cambodia and Singapore in the North and the West and West Kalimantan, Bangka Belitung and Proper Riau Provinces in the South and East (Figure 1).The following facts and figures outline the social and geographical condition of the province (Anonymous, 2015): 1) The province consists of 1,350 large and small to tiny islands, 30% of them unnamed; 2) The territory covers the area about 251,810.71 sq km, in which 96% of them are sea waters; 3) The number of population exceeds 1,973 million in 2015; 4) The economic bases are fishery, services and mining.

The interesting facts concern with the telecommunication that composes of 13 TV stations, 42 broadcasting stations, 13 newspaper, 17 portals, 35 popular magazines and four weekly tabloids. The province harbors also three universities, namely Raja Ali Haji Maritime University, Batam International University and Batam University.

Figure 1. Location of the investigated area (Anonymous, 2017)

This paper will concentrate the discourse on the geologic potentials consisting of minerals, hydrocarbon, building materials, fresh water and the landscape. The availability of stable lands suitable for industrial sites, tourism and modern settlement draws a special attention taking into account the large number of population and business activities in Singapore that needs more space.

METHODS

This research uses various methods in data acquisition. Literature studies from previous publications are complemented by search results data through the website. Primary data is obtained through field survey activities conducted in 2015 to 2017. Field surveys cover areas of Bintan Island, Batam Island, Rempang Island, and Galang Island (Sudradjat et al, 2015; Sukiyah and Sudradjat, 2016; Sudradjat et al, 2017).

The data obtained were analyzed using descriptive statistical approach done in the studio. Visualize the results of analysis in the form of images and maps The scheme of the research method is shown in Figure 2.

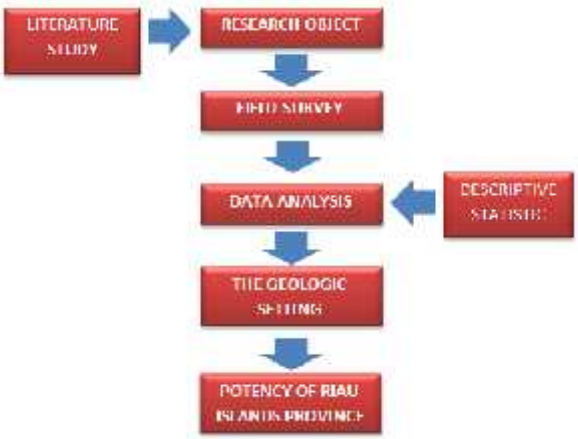

Figure 2. Scheme of research method

RESULT AND DISCUSS

Geologic setting

Riau Islands Province is one of eight provinces in Indonesia whose territory consists of islands. The Province is located in the stable mass of Eurasian continental earth's crust. Based on the results of literature study, the earthquake activities take place beyond Sumatra Island at a distance more than 1000 kilometers. The area therefore locates in a non-seismic zone in the vast Sunda shelf (Rovicky, 2015; Figure 3). It is part of a lead line sourced from granite rocks. Some of the rocks on the island have undergone a process of weathering and erosion. The exogenous process is intensive and extensive so it appears as a monadnock when viewed from the aspect of Sunda shelf (Molengraaf & Weber, 1921).

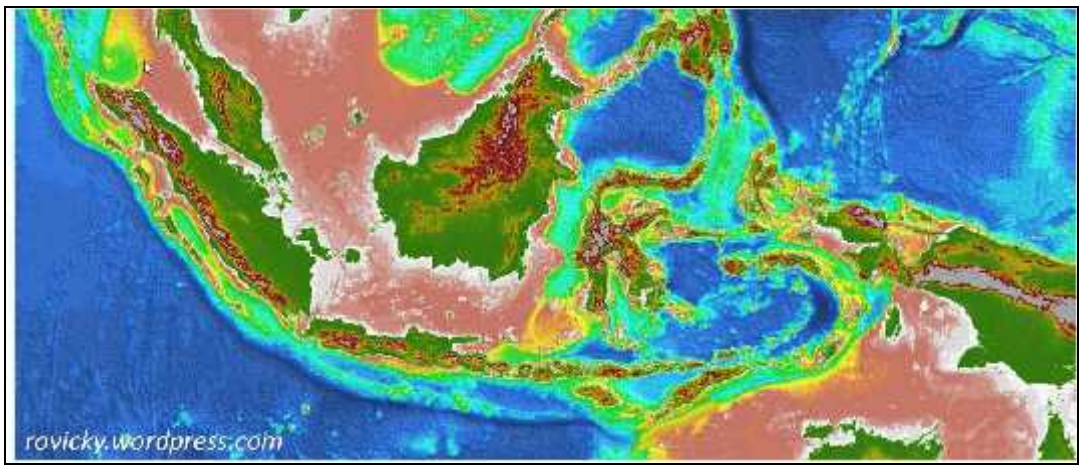

Figure 3. Sunda Shelf covering the western part of Indonesian waters is the location of the investigated area (Rovicky, 2015)

The rocks composing the islands of the Province consist of old magmatic belts and the metamorphosed clastic sediments of Mesozoic age ranging from 63 to 181 million years old. Approaching to the North the rock becomes older of Permian age or about 280 years old. The weathering therefore has intensively taken place, forming the peneplain with undulated hills indicated by gentle convex slope of about 7 to 20% with the elevation 50-100 meters belonged to inner low land according to van Zuidam's classification (van Zuidam and van Zuidam, 1985).

Rock types in the Riau Islands are generally composed by acidic rocks, including Triassic granite and Plio-Plistocene epiclastic sedimentary rocks (Kusnama et al, 1994). The metamorphosed clastic sediments form the metasediments predominantly covers most of the islands (Figure 4). In places magmatic rocks intruded those rocks along curving magmatic belts extended from Malaysian Peninsula to West Kalimantan (Figure 5). The belt faces to Southwest manifesting the ancient subduction zone in this direction (Katili, 1980). The repetitive magmatic activities took place resulting in two magmatic belts, known as SI and SS types respectively originated from igneous and sedimentary rocks.

Figure 4. Inclined metasediments exposure in Batam Island (Sudradjat et al, 2015)

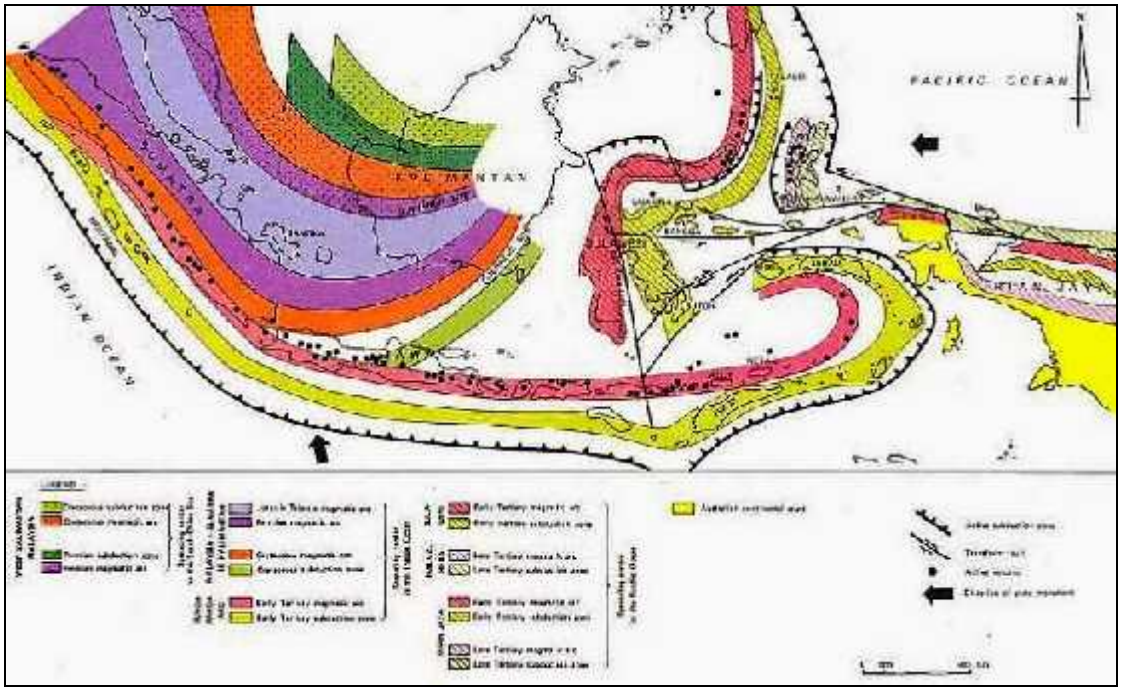

Figure 5. The configuration of geologic setting in Western part of Indonesia, where Riau Islands Province is located (Katili, 1985)

The age determination using Potassium-Argon method shows the figures of 155 ± 6 to 167 ± 6 million years old or Middle Jurassic age in Singkep Island. The rocks in Anambas show the age of 86 ± 2 million years old, whereas in Natuna 73 ± 2 million

years old or Cretaceous (Katili, 1980). This means that to the North the age becomes younger.

The younger terrestrial deposits of Quaternary age unconformable overlay the Mesozoic rocks indicating the absence of Tertiary sediments. This evidence exhibits the continental position of the area during the Late Mesozoic to Tertiary age. The region did not experience the recent tectonic movements of the post-Tertiary age; it thus locates in a stable earth's crust. The deformation took place during Mesozoic epoch resulted in the predominantly NE-SW foliation of the metasediments. In places the relics of sediments exhibit the steep or vertical angle. The metasediments consist of schist and quartzite. The latter own a relatively resistant property against exogenous process, resulted in elongated ridges.

Geologic potentials

The geological potential of the Riau islands is very diverse. They include minerals, hydrocarbons, morphology, and unique rock phenomena due to the erosion process. The following discussion reveals each potential in more detail.

1. Minerals

The formation of granitic rocks in the metasediments yielded the base metals of tin (Sn) and rare earth elements (REE). The weathered rocks produced quartz and zircon (Zr) and tin placer deposit. The intensive weathering resulted in the enrichment of Aluminum (Al) in bauxite deposit and the formation of clay or kaolin (Figure 6). The environmental problems in mining occur due to the removal of the top soil and left the land barren.

Figure 6. Kaolin with hematite cap exposed in Batam Island (Sukiyah and Sudradjat, 2016)

2. Hydrocarbon

The continental crust provides sag basin which potential for the formation of hydrocarbon. Such an environment generates gas with high CO_2 content which needs an engineering process to produce hydrocarbon commodity. The process will reduce the CO_2 content to avoid the impact to the global warming.

3. Building materials

Granites and the intermediate intrusions of late magmatic activities attain high physical properties suitable for building materials. However the granitic rocks mostly are weathered. The intermediate to basaltic intrusions are usually fresh and good for building materials. Sea sands are mined for filling materials, mostly for reclamation. The intermediate to basaltic rocks are suitable for the final domestic waste disposals taking into account the topography and hydrogeology. The size and skewness of the rock fractions hold an important role (Erawan, 2015).

4. Fresh water

The alluvial deposits covering the valleys consist of sand layers that provide aquifer containing ground water sufficient for domestic and industrial uses. The fractured granites might also yield fresh water. An endless source of fresh water is found on Panyengat Island. Since long time ago, this island has become a transit point for ships passing through the Strait of Malacca. Now, the place becomes a religious tourism destination because there is a memorial park of Raja Alihaji. He was a poet who created Gurindam XII (Figure 7b).

5. Suitable morphology for contructions and sanitary treatment

The morphology of the islands in Riau Islands Province forms an undulated topography as the result of long denudation in Tertiary to Quaternary Times or more than 63 million years. The process produced the peneplain of old geomorphologic stadium characterized by vast and flat lands. The topography provides the ideal location for large buildings, highway and the industrial sites. The stable crust due to the a-seismic zone is very conducive for the construction of high rise buildings.

The uprise of the sea level in the Quaternary age related to the increase temperature after the ice age at about 13,000 years ago produced the crenulated coastal line that provides suitable bays for marine industries. In the future these geologic potentials might produce the commodity of fresh water.

The morphological aspects combined with hydrologic and geotechnical assessment determined the requirement for the site of sludge water treatment (Rusdi, 2016). The black and grey waters yielded from the toilet become a serious problem due to the increasing number of the population.

6. Beautiful landscapes

The crenulated coastal lines provide embayment and beautiful landscape. The tourism industry enjoyed the embayment for the shallow and friendly seawater (Figure 8). In some places the buildings stand above sea water. The quarzitic white sands spread over the beaches. In addition to the Natuna islands, beach panoramas in East and North Bintan also become a haven for foreign tourists (Figure 7a).

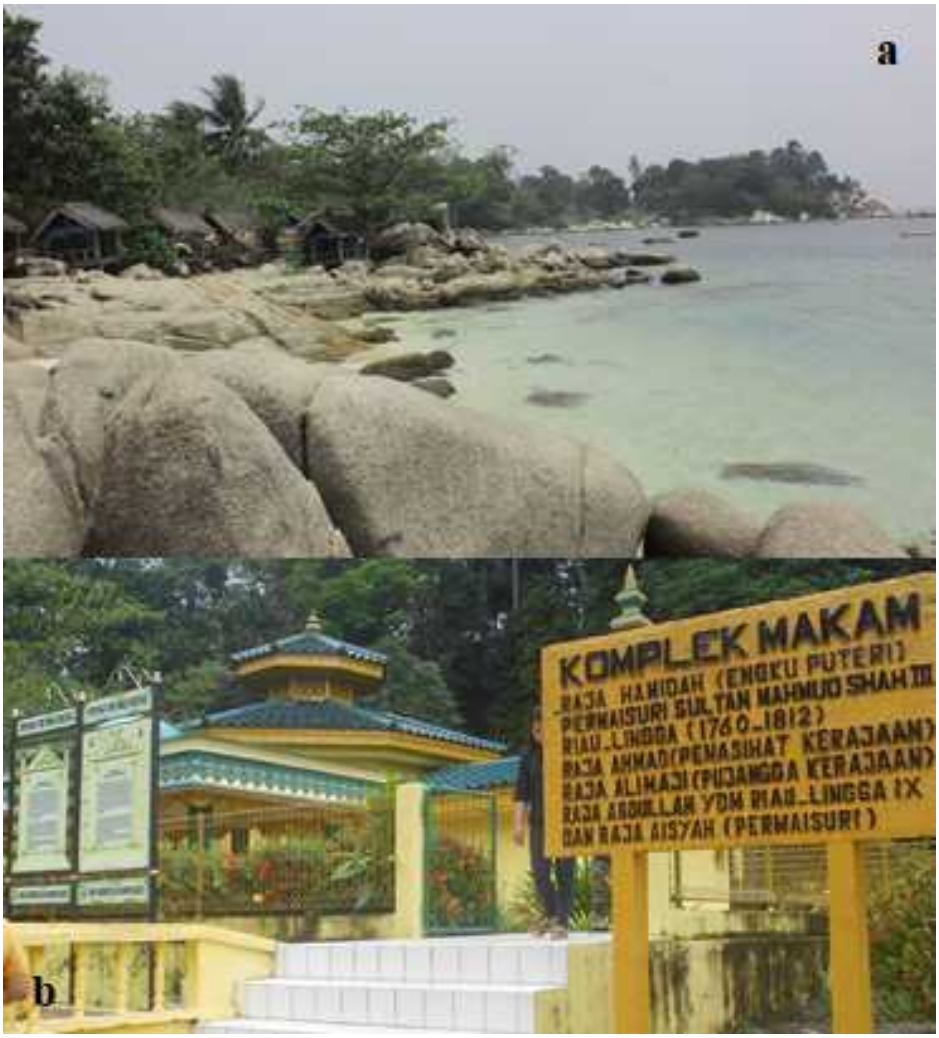

Figure 7. Granite rocks beach of East Bintan Island (a) and Raja Alihaji memorial park on Panyengat Island (b)

7. Unique stone sculptures

Because the erosion has taken place for more than 63 million years, the batholiths exposed to the surface. The giant size of stone emerged from the deep of the earth and subsequently polished by the erosion creating unique stone sculptures (Figure 8). The unique does not only concern with the shape and the extra-ordinary size of the stone, but it also represents the remnant of the Mesozoic plain which is more than 63 million years old and rarely found in Indonesia. The submerged peneplain of Sunda shelf is by size the largest in the world. Many geographers consider the shelf is equivalent to the imaginative lost continent of Atlantis philosophically taught by Plato.

Figure 8. The beautiful landscape of Natuna Island, the exotic embayment is enjoyed by the tourism industry, and the unique shape of quarzitic metasediments in Natuna Island (Anonymous, 2015)

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The geologic potentials of Riau Islands Province consist of minerals, hydrocarbon, fresh water, the provision of suitable lands for buildings, and the beautiful and unique landscape. The availability of the geological potential is not evenly distributed. Therefore, the utilization can be a priority for each region where the potential is present.

The geological processes produce rare submerged peneplain of Mesozoic age considered to be the largest in the world. The vast peneplain located in a stable earth's crust of non-seismic zone is suitable for high rise buildings and industrial sites. Some areas can be utilized as industrial estates, both mining materials processing and various industries that utilize these materials. Strategic location on the world trade routes, facilitate in the market aspect.

The embayment produced by submerged peneplain is conducive both for marine and tourism industries. The mix between the shopping area of modern products and marine tourism will be something distinctive and can be a flagship that can compete with other regions, especially Singapore.

Recommendations

Inventarization of mineral wealth both in land and sea is recommended. The utilization of the material can be done based on its priority. Meanwhile, the management of the beauty and unique landscape is suggested to be proposed for the national and international geopark under the UNESCO network.

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Strategy for developing of small medium industry to creative industry in special culinary, Sarolangun Regency

Fitriaty; Dwi Kurniawan

Faculty of Economics and Business, University of Jambi

Correspondence e-mail: fitriaty@unja.ac.id

Abstract.
This study aims to obtain a description of small and medium industries in the area of regional culinary sarolangun, internal and external factors and formulate strategies to develop the industry to become a creative industry. The method that is used SWOT analysis, descriptive and qualitative analysis. Based on the research result found that the culinary that can be developed is coconut bread, dodol, kipang cake and curry fish curry fish. The weakness of internal factors lies in working capital, human resources and external factors lies in marketing and institutional. The recommended strategy is to turn around.

Keywords: *SME's, Culinary, SWOT Analysis, Turn around.*

INTRODUCTION

Creative economic development in Jambi Province is faced with problems to create attractive business engagements for public investment and to develop creativity and innovation in the business world, especially in the sector of MSME's and micro economy. The challenge is to promote growth and growth areas that can accommodate economic activities, expand employment and simultaneously fulfill functions as a service center and a creative economic base. Creative industry is part or sub system of creative economy.

The creative industry needs to be developed in Indonesia because it has an important role in the development of state and local economy (Ministry of Commerce, 2008). *First*, the creative industry sector contributes significantly to the economy such as increased employment, increased exports, and its contribution to GDP. *Second*, creating a positive business climate that impacts on other sectors. *Third*, build the image and identity of the nation such as tourism, National icon, build culture, cultural heritage, and local value. *Fourth*, based on renewable resources such as science and creativity improvement. *Fifth*, create innovation and creativity that is a competitive advantage of a nation. *Finally*, it can have positive social impacts such as improved quality of life and social tolerance. The contribution of creative industry in Province Jambi level such as in the culinary sector of 5.626% and Sarolangun regency of 1. 22%. Based on the contribution to the GDP of the sector will affect the economic improvement of Jambi Province, especially in the absorption of labor, so that the unemployment rate will decrease .

The creative industries in the culinary sector have experience some problems faced to the availability of creative human resources, proven marketing of industrial products. They could be said still around the Jambi province area. It is meaning that the

largest percentage of products currently only in the community local consumers Sarolangun.

The research purpose is to identify the general picture of small and medium industries in culinary sector and the potential to become a creative industry in Sarolangun Regency. Identify internal and external factors that contribute and synergy in developing creative industries. Formulation of development strategies 3 SMEs become creative industries that are competitive in facing the challenges of MEA in Sarolangun Regency in the area of regional specialties .

METHODS

Primary data is obtained from the field survey, which is the manager/ management of IKM, as well as from stakeholders related to other creative industries. Secondary data was obtained from the Office of Industry and Trade of Jambi Province and Sarolangun Regency, the Cooperative Service Office and the UMKM of Jambi Province and Sarolangun Regency, the Central Statistics Agency of Jambi Province and the Sarolangun Regency, the Tourism Office and the literature study. The sample of this research is 60 people with 10 of UMKM.

Data analysis method uses two kinds of method that is descriptive and qualitative method and SWOT analysis.

RESULTS AND DISCUSSION

Small and medium industry culinary special area of Sarolangun Regency.

Sarolangun Regency has a variety of traditional specialties, but not all types of foods are made as main food and top seed. Based on the result, there are 4 (four) typical foods that can be developed are: Coconut bread, Dodol, Kipang and Curry Tumbled river fish. This product can be developed to become a creative industry.

The total number of workers employed in this culinary sector is 517 people, but has not received any training organized by the Government. If viewed from the value of this investment culinary sector that is Rp. 2.491.338.000 with the production value of the total cultivation industry is Rp. 15.195.098.000, -. This investment has a high enough rate of profit if managed with the maximum.

Ability of SMEs in producing creative products

The creative product is the result of a creativity of someone who has novelty, able to solve the problem or resolution), following answer respondents who describe the ways the product, so that can be decided by the experts of the product is creative or not yet. Based on the results of research through respondents' answers on average about 77%, respondents have never created a product that functions to answer consumer desires. Then the product is also said to be creative if (3) the product has the nature of elaboration and synthesis that refers to the degree to which the product incorporates unequal elements into a sophisticated and coherent whole.

The research result through respondents’ answers as much as 75% never does elaboration and synthesis in producing the product. Condition of Small and Medium Industry to creative industry based on the results of research through respondents' answers on the three sectors in the study of culinary sector, handicraft sector and fashion sector. In general can be described the current state or condition of internal and external factors that support Small and Medium Industry (IKM) into creative industries can be seen in the following figure:

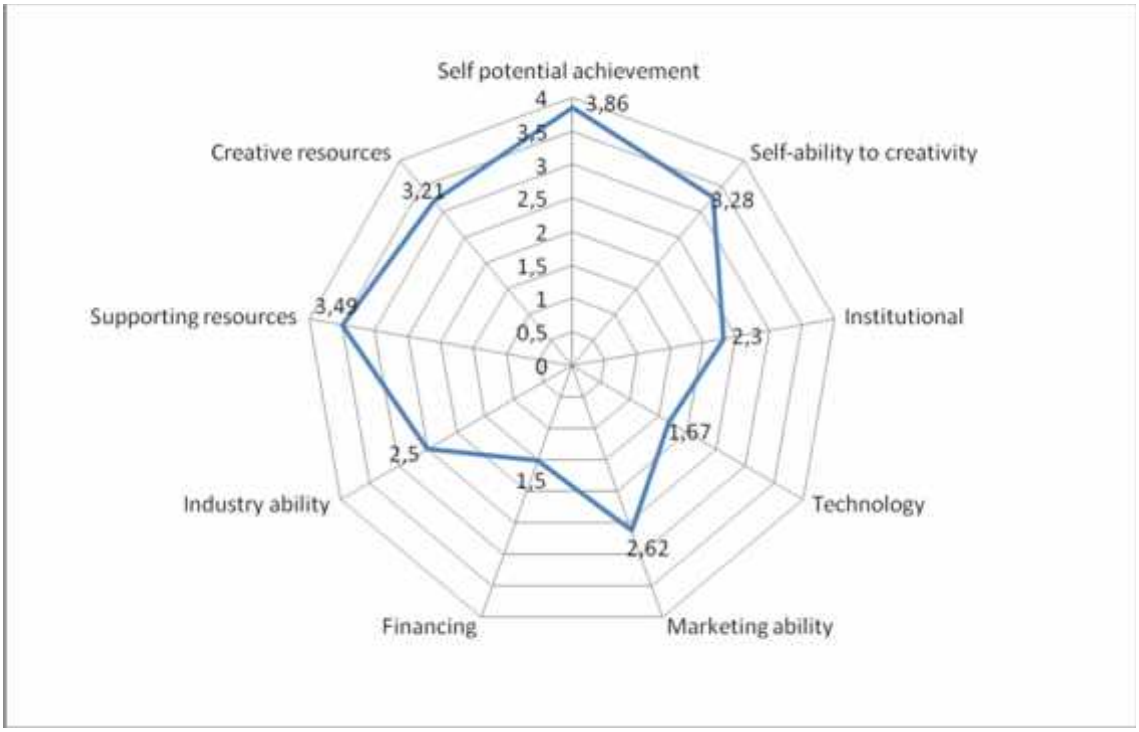

Figure 1 : Internal and external factors

The figure 1 show that internal and external factors that support the culinary business into creative IKM. Based on the results of the data, it is found that external factors such as financing, in this case, funding from government funds and financial aid obtained from the government is in a very bad condition, where almost 75% of business owners in developing their business have not received financial aid yet access banking. The ability of this small business in establishing cooperation in the field of marketing, the ability to have product and brand standards and the ability to create a diversity of business types to keep the consumer is still bad. It is because still about 44% they have not been so follow the development of technology, both from the desire alone and from the side the role of the government to introduce technology to develop business to a business that has creativity such as creating a higher quality product, both in terms of its use and benefits. In addition to the role of universities to promote SMEs to the creative IKM still shows its role is evident from the answer respondent that is about 73.5% that the college has not played a maximum role in introducing and developing technology to improve product quality and quality and the remaining about 11% there are some IKM still get the introduction of technology although still rare and the rest equal to 2.5% quite often or equal in 1.67 indeks.

In terms of ability of IKM itself encourages self-ability to creativity is good enough, shown the results if data from the respondent's answer is located in the average range 3.28. The ability of SMEs to have creative behavior is also supported by the government through creative resources is good enough that is in the average range of 3.21, creative resources is one of the government efforts to increase the self-potential of business actors in this case the IKM in the form of providing education and training , but found around 26.5% have never received training and education from various agencies either government or other, 44% still states rarely get training related to business development.

The ability of marketing at IKM is still quite good, but they have many problems, including the scope of marketing is narrow. SMEs reach the market is dominated through friendships where seeking information in the form of new sales place about 52.5% only a few are trying to find new markets through print and social media that is equal to 28.5%. When viewed from the resources of support and potential of IKM toward the creative IKM is good, where for the supporting resources have an average value of 3.49 and the value of self potential achievement of 3, 86. This actually can be used as a basis for creative.

Supporting resources such as the government has provided a conducive climate for business, infrastructure in the form of information access through internet network, only intensified cooperation. Based on respondents' answers about 81% IKM requires cooperation with larger business to help, foster and join the market products between small and medium industries, as well as between medium and large industries, which will create downstream and solve the marketing problems faced by IKM

Main strategy development of small and medium enterprises culinary sector

The research result based on SWOT analysis by expressing weakness and strength and opportunities and threats using EFAS and IFAS matrices can be recommended the main strategy formulation which should be developed by small industry actors is tour around. This strategy is applied based on the utilization of existing opportunities by minimizing existing weaknesses, efficiency and creat featured product which able to compete . The main weakness of this industry is the adequacy of capital and well-trained workforce. This capital requirement becomes an obstacle because business actors have to procure raw materials with cash, there is no cooperative that can sustain.

Raw materials are also not continuously available such as tempoyak curry whose main ingredient is durian, only in can when in season only. This weakness can be overcome with non-commercial interest credits, Corporate Social Responsibility (CSR) funds. Small industries are often confronted as single businessman without any partnership. So, risk is at their own risk in case of loss or other impact. Marketing product also is a constraint because the size of the standard packaging and taste is not owned.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The description of small and medium enterprises cultivators typical Sarolangun has good employment absorption, but not well in product innovation because of the limitations of knowledge, skills and capital. Internal weakness factor in this particular culinary field is from the financing, skill, product marketing, The strategy that became the reference for the development of this business is turn around by taking advantage of opportunities to overcome the weaknesses that exist so the industry can grow well and sustainably.

Recommendation

In order to the creative industries are need to increase investment and work capacity and to increase market share through product development efforts and quality. Meanwhile, local potential must be increased in order to absorb the maximum workforce, the role of government and universities should be maximized. In order to synergize in fostering creative economy, knowledge and business management professionally need to be given to the owner business, product and packaging standards

must be set. So that the product can compete, partnership with entrepreneurs, government and other related institutions, product certification such as halal and trademark.

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