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Optimizing Resource Factors in Developing Coastal Area Based on Regional Excellences: The Case of Bekasi Regency in Indonesia

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Abstract

The regional development based on regional excellences – in which the community has high involvement – is a complete solution for economic community development. Therefore, by the case of Bekasi Regency in Indonesia, this research aims to identify the superiority of sub-districts in the agricultural sector, to increase the efficiency and to optimize the allocation of resources to achieve a complete economic growth and equality. For such purpose, the analysis model used in this research is Location Quotient (LQ), Regional Concentration Coefficient (RCC), Cobb-Douglas production function and optimization. The superior region and the highest value of LQ in the primary agribusiness sector in Bekasi Regency is Muara Gembong Subdistrict with milkfish ponds as the superior subsector. In the light of cobb-Douglas analysis model based on the survey data, the production factors (feed, fertilizer and pesticides, labor, and pond area) should be simultaneously increased to improve efficiency of milkfish production process; and the optimization of milkfish production could be exactly achieved by allocating certain amount of production factors.

Keywords*: Regional Development; Location Quotient; Regional Concentration Coef ficient; Optimization.*

1. Introduction

The cross border problems, globally, in Asia and the Pacific, one of which is the management of natural resources. This issue challenges the 2030 agenda in achieving sustainable development goals (SDGs) supported by the ESCAP Secretariat and other UN entities. The implementation of sustainable development goals (SDGs) is expected to be a complete and exact solution for the protection of the environment, resources and across borders ecosystems. The sustainable development systems have been accepted throughout the world by emphasizing the efficient use of resources [1]. The United Nations published a report entitled "World Commission on Environment and Development" (WCED) which emphasized that the goals of sustainable development (SDGs) - known as global goals - are ending poverty, protecting ecosystems and ensuring that all people enjoy peace and prosperity [2]. The meaning of "sustainability" is a global keyword as a potential solution for the international, regional and local problems faced by the community [3]. The Department of Geography and Resource Management, Mizoram University, Aizawl, India, at the international conference on natural resource management for sustainable development and rural livelihoods – elaborated ways to enhance regional development and sustainable economic development, by preserving the nature resources [4]. The research experience in Europe over the past few decades regarding the causes and consequences of inequality in development outcomes has contributed to the optimization of economic distribution, which involves the regional development approaches and roles [5].

Therefore, in line with the principles of sustainable development goals (SDGs), it is very important to develop regions based on local excellences. In most countries, the various regional development policy concepts emerged, especially after the Second World War [6]. In general, the regional development process - based on this concept - emphasizes the efforts to stimulate economic growth and equal

distribution [7]. Furthermore, the equity and regional development should be based on local excellence [8]. The interest in increasing the role of regional development based on regional excellence underlines the need of sustainable interaction between socio-economic aspects, technological change, and community development across regional boundaries [9]. To spur the regional development based on its local excellence, it needs a strategic and appropriate approaches so that the potential of the region could be developed comprehensively and integrally [10].

The inequality in regional development will have a depth impact on the conditions of economic growth [11]. Oppositely, the successful regional development based on regional superiority will increase the acceleration of the rate of economic growth and public welfare; but this requires deeply the active community as economic actors in accordance with the existed local potential [12]. Topographically, Indonesia has a very strategic position in building regional excellence, as seen in the Bekasi Regency area - which is one of the metropolitan areas in Indonesia with the highest level of complexity, due to functional links with the Indonesian capital, although Bekasi is administratively located in the West Java Province [13]. The high intensive economic interaction with growth centers in the capital and with ecological governance areas yield the interregional components having high interdependence and mutual influence [14]. This condition has caused the Bekasi Regency is the main economic contributor, and it is included as the largest contributor area of more than 10% for the provincial economy in Indonesia. More clearly, there are four biggest contributor areas above 10% for the economy of West Java Province, Indonesia [15], as in Figure 1.

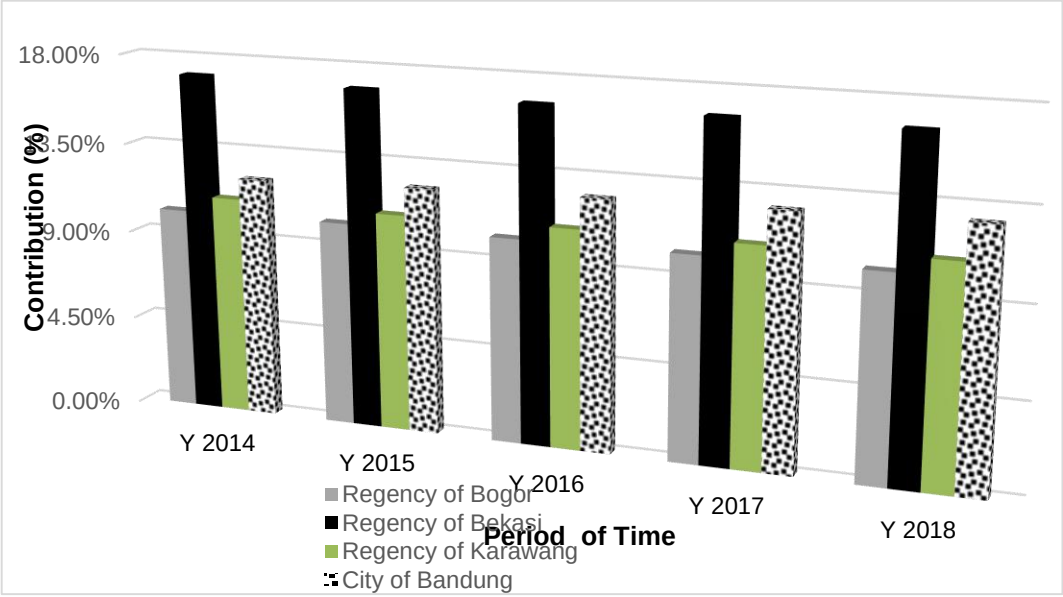

Figure 1. The Largest Economic Contributor Regions of West Java Province, Indonesia

Based on the contribution of each region, it appears that Bekasi Regency is the largest contributor to the economy of the province of West Java, which reached 17.08%. Other regions such as the City of Bandung contributed 12.4%, Karawang Regency 10.98%, and Bogor Regency 10.16%. Therefore, Bekasi Regency has the potential to become the focus of regional development in West Java. The economic contribution is broadly supported by role of agricultural and non-agricultural sectors [16]. However, the both agricultural and non-agricultural sectors has experienced a very high competition in the use of land resource allocation [17], which often results in a contradiction between the protection of agricultural land and the expansion of non-agricultural land [18]

The dynamics of land allocation for various development sectors at the regional level in Indonesia has contained multidimensional problems, due to the influence of socio-economic factors and land use change policies [19]. Factually, in Bekasi Regency there has been a conversion of agricultural land into residential and industrial areas [20]. Residential and industrial areas have the effect of pollution on the

agricultural sector [21]. Referring to Daniel and Agnieszka's research [22] the growth of the non-agricultural sector has a negative impact on land resources and water resources. Accordingly, the land allocation for agriculture, plantation and fisheries sectors in Bekasi Regency contributed sequentially 1.42%, 1.33% and 1.40% with growth rates of -2.73%, -7.53% and 6.03% to the regional economy of Bekasi Regency [23], which strongly indicates the small role of agricultural contribution to the economic regional of Bekasi, compared to non-agricultural sector.

However, the statistical data of fishery sector in the region of Bekasi in 2014, 2015 and 2016 indicated a high achievement in economic growth rate and accordingly it is potentially to be developed based on the local resources, such as coastal area, because economically it can be utilized as a place to develop capture fisheries and aquaculture [24]. For a comparison, in Vietnam, the coastal resources are a means to develop sustainable development programs aimed to increase the economic effectiveness and quality of life of local residents [25]. Therefore, the coastal zone is increasingly attractive for regional resource development based on regional excellence [26]. Although the coastal area covers merely 4% of the total land area of the Earth and 11% of the total of sea area, this coastal area contains more than one third of the human population on earth and is more than twice of the population density of the land area [27, 28]. Therefore, the development model based on the coastal local excellence will make a significant contribution to the world.

Based on the above description, the coastal development plays a very important role. However, in the local context, the coastal resource of Bekasi Regency has not been optimally developed, so they have not yet produced competitive goods and services. In fact, according to the viewpoint of location theory - where coastal development can be viewed from this theory – the regional economic growth is influenced by location factors, as capital will flow from high-paid areas to low-paid areas [34]. For Bekasi, the implementation of regional development based on regional excellence and the potential of the coastal zone must be able to follow and meet the demands of regional and national development without ignoring the specific needs of the region. In addition, the sustainable economic development based on leading sectors of the coastal region must lead to improve people's welfare. Based on this logic, the optimization of resource factors for the development of coastal areas in Bekasi Regency places an important role; then the development of regional excellences products based on local expertise is strongly needed. Therefore, the analysis of factors of production efficiently and optimally is the "key word" for the creation of superior & competitive products to drive regional progress for welfare of local community.

2. **Framework Analysis & Reasoning**

Over the years the development of the region has become a major concern especially in the era of global climate change [35]. The regional development is defined as an integral community development (social, economic, environmental, health, technology and culture) in a particular area [3]. Referring to Snickars *et al*. [36], the regional development is a process of long-term problem solving for economic structure globally in a country. The regional development has many concepts, in which it is a combination of various theories and models that have been developed, so that the approach is adjusted according to the condition and need of each region [37]. By increasing the socio-economic problems, it is necessary to have a major policy to carry out a regional development strategy [38]. The regional development performance consists of several indicators such as the increase in income and change of the economic structure [39]. The theory of regional growth majorly emphasizes the investments related to local resources in order to develop participation of the economic drivers [40]. The regional development program initiated by the UNDP requires the achievement of the sustainable development goals (SDGs) [41].

The understanding of the economic conditions of the region and its growth process can be used as a guide to determine what actions must be taken to accelerate the pace of growth. The use of resources is intended to encourage sustainable economic growth, which is to develop leading sectors in accordance with the potential and needs of the region. Setiyanto [42] states, the regional development concept approach includes the concept of resource-based development, development of leading commodities, efficiency-based products and optimization. The Bekasi Regency has "local wisdom resources" that can be utilized as objects of regional economic development. However, the current conditions of Bekasi

strongly indicates, the land use is not yet optimal due to human activities, and it causes irregular use of space, decreased the environmental quality & community income, abrasion, and finally uncontrollable land use change. In line with the aim of this research, namely an analysis of the economic development of a region based on superior products that can be produced efficiently and optimally, the framework of this research presented in Figure 2.

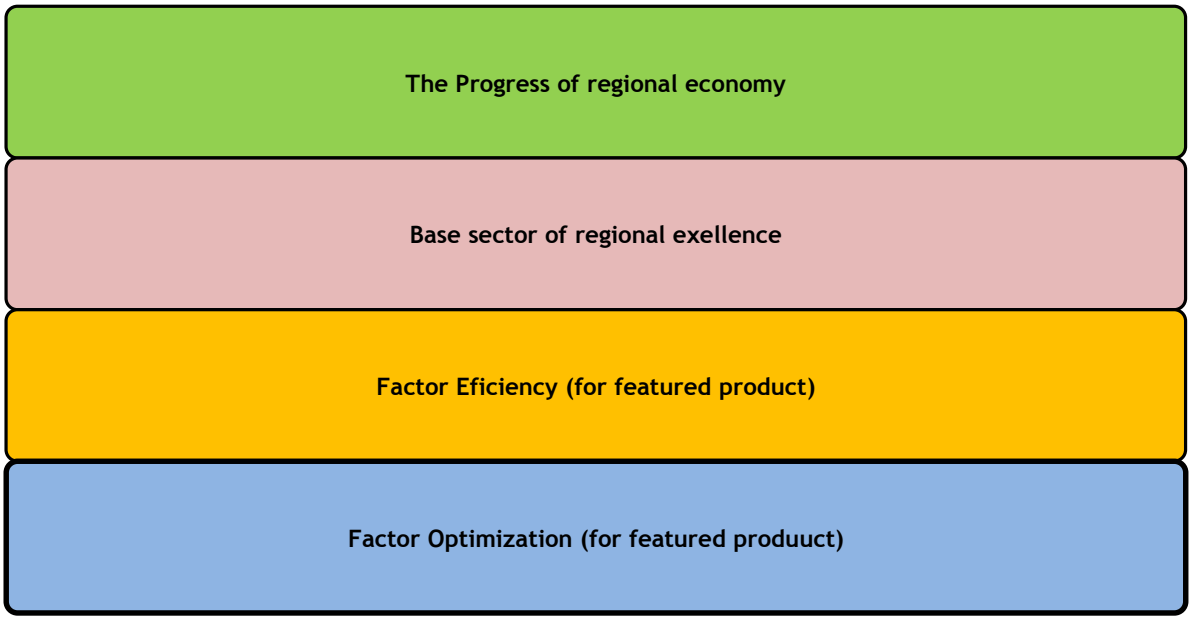

Figure 2. Framework Thought for Regional Development

According to the 2030 Agenda, each country in Asia and the Pacific is expected to target 17 issues in implementing sustainable development goals, where the economic growth is one of the long-term solutions; and the government is expected to utilize resources to improve accommodation in various sectors [43]. Most theories of economic development refer to processes of economic and social change, which have a cumulative and durable impact on the national economy [44]. The economic conditions are expected to develop not only in quantitative but also in qualitative changes (economic structure, emergence of new sectors and industries, new jobs, etc.) in the regions [45]. The term of economic development is often associated with development and growth. The development aspect focuses on improving quality, risk mitigation, innovation, and entrepreneurship; while the growth is more emphasizing on production results or innovation on product efficiency from each main economic driving sector [46].

The economic development of a region can be divided into two main groups, namely the base sector and the non-base sector. Referring to Adista *et al* [13], the concept of a base sector is a condition of strengths and weaknesses for the process of meeting the needs that lead to an inter-regional export and import system. Whereas, for the non-base sector the role of the economy is only to be able to cover market activities inside the regions themselves and not yet boost the export capacity. The base sector plays an important role in the regional economy, because it has a competitive advantage; and for the non-base sector even though it has less potential, but it is supporting the base sector in a region [47]. The base sector is related to the comparative and competitive advantage of an area; which is basically related to leading commodities in each region. Faisal [48] stated that the superiority of a commodity is oriented towards export activities across economic borders. The importance of leading sectors determines the basis of successful regional development. Many of the potential resources owned by the region become a space for sustainable use of the economic sector [49].

As a regional development tool based on regional excellence, the production process of leading commodities should be oriented to the efficiency and optimization of production factors, in which the production factors is as supporting the availability of facilities in regional development [50]. Scientifically, the efficiency has become a major topic in the management of relevant resources; and when

production activities are carried out efficiently, the production process will run better [51]. In this context, Kolinski [52] emphasizes, increasing the efficiency of factors of production is an important process to control the actions that seek to maximize production output. The efficiency component refers to technical as well as allocative; and technically it could clearly be seen in controlling waste and improving quality in the production process. While, the allocative component is intended to determine the optimal proportion on the basis of input-output in line with the prevailing price. Adoption of technology is expected to help in determining the optimal proportion in the production process [53]. The improvement of production activities requires continuous improvement in the assessment, control and optimization of the production process [54]. Izadmehr *et al* [55] defines the optimization of production as an activity of maximizing the production process in the long run, while minimizing total production costs. Finally, the pattern of regional economic development based on leading sectors; as well as the efforts to increase efficiency and to optimize production factors intended to create high competitive products.

3. **Materials and Methods**

This research methodologically combines case studies with surveys; combining secondary and primary data - which is the result of a quantitative survey. By combining these two methods, the data obtained can support each other for maximum results. The secondary data types are collected in the form of time series of Gross Regional Domestic Product (GRDP) and 2013 agricultural census data. While the primary data includes milkfish production factors, such as the use of seeds, feed, fertilizer, medicine, and the milkfish farmer and land size, collected from milk fish farmers as a research population. Based on the principle of representation and minimization of sampling error [56], this study uses the Slovin formula with 0.01 (1%) sampling error; with the technique of determining the sample using stratified random sampling [57]. The population of fish farmers is 891 people, and with a sample size of 90 people.

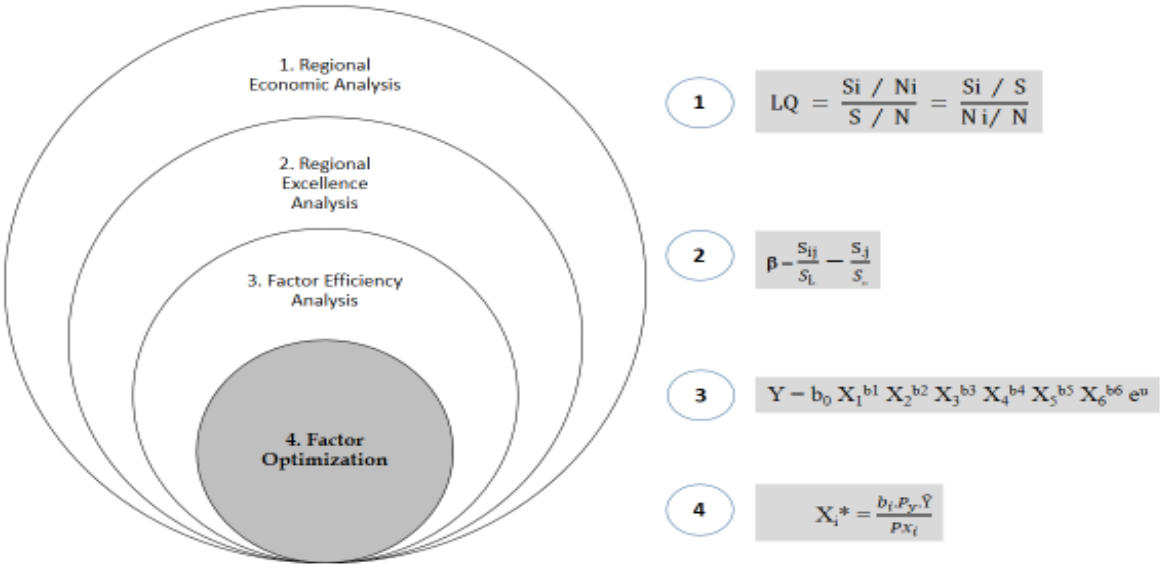

Figure 3. Four Steps Model Analysis

This research adopted four stages analysis (Figure 3): regional analysis to determine the economic base; analysis of regional superiority to obtain leading commodities; determine efficient production processes; and optimizing the use of production factors to optimize regional development based on regional excellence to produce the high competitive local product. This four stage analysis is implemented in agricultural sector, and the detail analysis is as following:

3.1. Analysis of Regional Economy

There is a diversity of infrastructure, workforce skills, population density, socioeconomic conditions, land availability, and the potential of each region, which encourages the need for a base sector analysis of the region [58]. This study uses the Location Quotient (LQ) analysis to determine the level

of specialization of the economic sectors of Bekasi Regency utilizing leading sectors; and determine commodities which are the basis and non-base sectors [59,60,61], with the formula:

(1)

Where LQ is Location Quotient, and Si = Total income of the sectors of of i-th district, S is the total income of the entire sector of the district, and Ni = Total revenue of the sectors of i-th region, N = Revenue of entire sectors of the region. If LQ ≥ 1, then it is base sector, If LQ <1 is non-base sector.

3.2. Analysis of RegionalExcellences

Calculating the concentration coefficient, aims to determine the concentration of income of each sector in a region, so that the region is identified as having a superior product above the average [38]. The formula uses the following equation:

$$\boldsymbol{\beta} = \qquad (2)$$

In which **β** is the income concentration, and Sij = income of the i-th sector on the j-th district, Si. = Income of all i-th sectors of all district areas, Sj = income of all sectors in the j-th bdistrict, and S. = Revenue of all sectors from all regions.

RCC = ∑ **(β > 0),** Regional Concentration Coefficient is the sum of the coefficient of income concentration (**β** positive). The highest RCC indicates the leading region, because it has a high-income sector.

The greater the value of the RCC shows the magnitude of the concentration of base sector activity, especially the natural resource base sector, because the existence of natural resources is imperfect mobility [62, 63].

3.3. Factor Efficiency Analysis

The efficiency of the factors of production is adopted to increase the competitiveness of a commodity. For this purpose, this study uses econometric criteria with the Cobb-Douglas function test - to predict influential factors - as well as the natural logarithmic regression coefficient model [64,65]. Econometric equations will be described for each research variable, namely:

$$\text{Ln } Y = \text{Ln } b_0 + b_1\text{Ln } X_1 + b_2\text{Ln } X_2 + b3\text{Ln } X3 + b3\text{Ln } X3 + b4\text{Ln } X4 + b5\text{Ln } X5 + b6\text{Ln } X6 + e \qquad (3)$$

Where Y is the output / yield of milkfish (kg), and X1 = seed (amount), X2 = feed (kg), X3 = fertilizer (kg), X4 = medicine (litter), X5 = labor (DMW), X6 = land area (Ha), b0 = regression constant, and b1-b6 = regression coefficient, and e = error.

3.4. Factor Optimization Analysis

This analysis model is intended for decision making in meeting the needs optimally [66]. Factor optimization by using production inputs is done through the marginal product value (MPV) approach to produce the maximum product [67]. The determination of the optimization level is obtained from the calculation of elasticity (Ep) which can be known by looking at the regression coefficient (bi) in the Cobb-Douglas regression function with the following formula [68, 69].

(4)

It can be seen that the value of Ep is the elasticity of production, and MPP = marginal product, APP = average product, bi = regression coefficient from the i-th input (i = 1,2,3, ... 6). Optimization analysis is carried out through advanced calculations by this formula:

$$X_i^* = \qquad (5)$$

Where is Xi * = i-th optimal input (i = 1,2, ... 6); $\bar{Y}$ = average production (kg); bi = regression coefficient of the i-th input (i = 1,2, ..., 6); Xi * = i-th optimal input (i = 1,2, ... 6); Pxi = factor price. Then to determine the optimal and sustainable scale of economic activity in the relationship between factors of production there is an equation of the number of regression coefficients of the Cobb-Douglas production function [70,71].

$$\text{RTS } \textit{(return to scale)} = b_1 + b_2 + b_3 + b_4 + b_5 + b_6 \qquad (6)$$

Where, that b1-b6 is a regression coefficient. Increasing return to scale (if RTS> 1), Constant return to scale (if RTS = 1), and Decreasing return to scale (if RTS <1).

4. **Results and Discussion**

The results of this analysis aim to determine the success rate of economic development for undeveloped area of Bekasi Regency with the focus of discussion on the exclusion sector.

4.1. Bekasi Regional Economic Base

Bekasi Regency is divided into three typologies of economic structure, namely the dominance of the primary, secondary and tertiary sectors. Bekasi Regency provides the biggest contribution to the economy of West Java Province. In 2015 the economic growth rate in Bekasi Regency was 5.94%, higher than the economic growth rate of West Java Province which was 5.89% [72]. Widianingsih *et al*. [73] argues that a small number of sub-sectors in West Java Province are in relatively backward condition. This situation also affected Bekasi District. Therefore, this study conducted an analysis of resource development in primary sector, in which it is usually called as Type I economic structure.

The determination of the regional economic structure is based on the results of the Location Quotient (LQ) analysis rearding the economic growth rate of each district as well as the contribution of leading sectors, which is consisting of 4 sectors, namely (1) the agriculture, forestry and fisheries sectors; (2) mining and quarrying sector; (3) manufacturing industry sector; and (4) the wholesale and retail trade sector. The districtis of Bekasi Regency which are dominated by the Agriculture, Forestry and Fisheries sectors, are Babelan District with sector contributions of 56%, Cabangbungin District by 39.64% contribution, and Muara Gembong District by 49%. Muara Gembong district has the highest LQ value in the agricultural sector, and the fisheries sector – in which this setor is the main contributor to LQ value (Figure 4). The fisheries sector is a base sector and plays a major role in driving the regional economy in Muara Gembong District. Furthermore, this area will become the focus of research related to the analysis of the efficiency of the use of the factors. Muara Gembong Subdistrict is the largest coastal and fishery area in Bekasi Regency and its geographical location is close to Jakarta Bay, the Citarum river flow makes up about 90% of the residents' livelihoods as capture fishermen (688 people) and fish farmers (4262 people) [74].

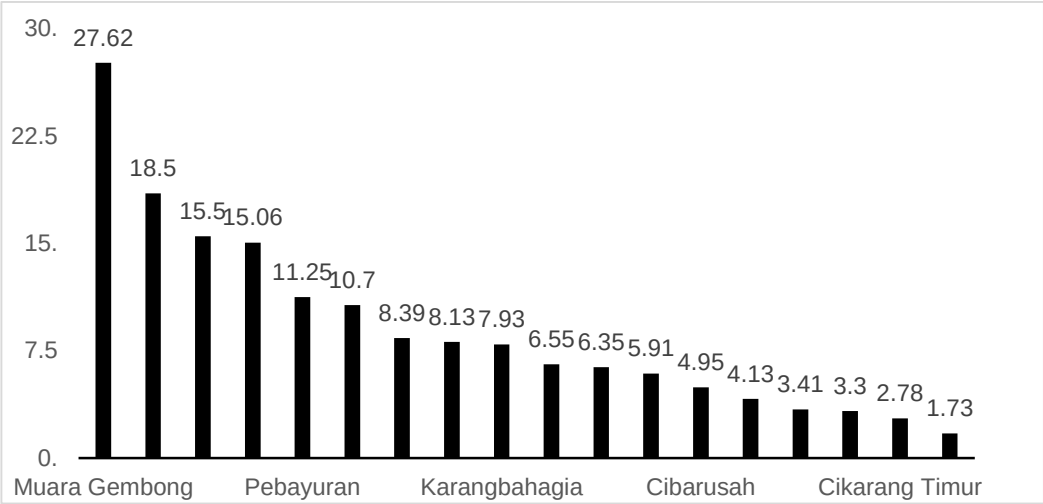

Figure 4. The Value of Location Quotient of District of Bekasi Regency

4.2. Regional Economic Excellence

The base sector owned by a sub-national region (provincial, district / city and district) has a role in driving the rate of economic growth. The successful development of the base sector for each sub-region will encourage the accumulation of economic driving forces towards the formation of leading economic sectors. The indicator used to determine regional excellence is the value of Regional Concentration Coefficient (RCC). If the RCC is positive, it indicates the sector's performance is above the average. The greater the value of the RCC means the region is superior in the same sector. The RCC value of Bekasi Regency's agricultural products is presented in Figure 5.

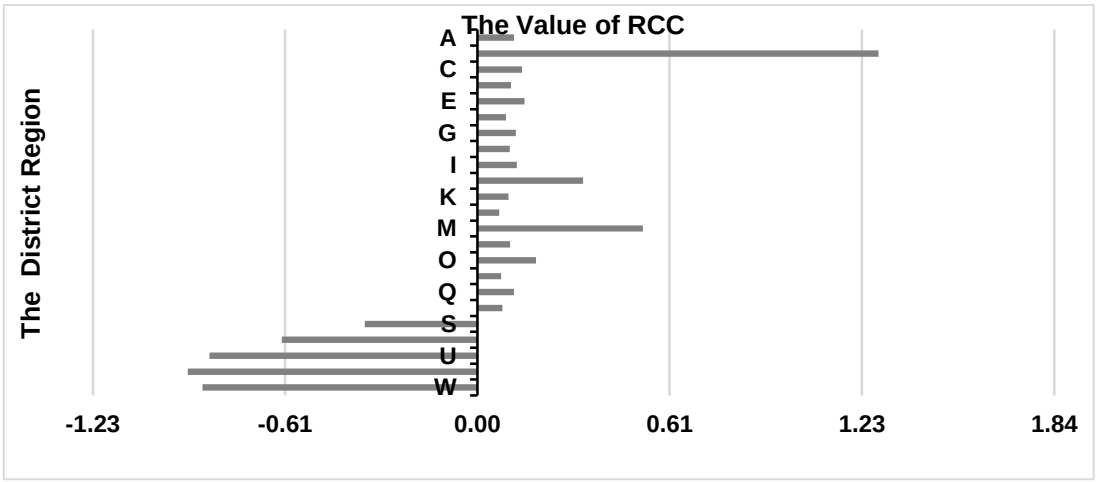

Figure 5. The Chart of Value of Regional Concentration Coefficient (RCC)

The value of the Regional Concentration Coefficient (RCC) in Bekasi Regency shows that Muara Gembong Subdistrict has a superior commodity in the fishery sector with an indicator that the RCC value for the fisheries sector is positive. In contrast, the regions that have a negative RCC value in the fisheries sector are industrial areas. This is not surprising because Muara Gembong is a center for aq-uaculture ponds, with the main commodity is milkfish; where this area has as many as 891 fishpond farmers. However, the development policies shown by the 2012-2017 Strategic Plan emphasize more on the efforts to increase regional competitiveness in agriculture; whereas the agricultural RCC value for Muara Gembong is d below the average or minus.

4.3. The Efficiency Factor (for Excellence Products)

The Muara Gembong area has the highest RRC value in Bekasi Regency in the fisheries sector with its main product is milkfish. The production of milkfish cultivation by the Muara Gembong community is polyculture, which consists of several commodities which are cultivated at the same time. In general, in Muara Gembong there are three patterns of polycultures. *First*, tiger shrimp (*Penaeus monodon*), milk fish (*Chanos chanos*), and seaweed (*Gracilaria sp*). In general, this pattern has been carried out by traditional farmers. *Second*, tiger shrimp (*Penaeus monodon*), tilapia (*Oreochromis niloticus*) and milk fish (*Chanos chanos*). *Third*, milk fish is the main commodity, while shrimp is a counterweight. The second and third patterns have been carried out by farmers, but their spread is still very limited [75].

For this reason, it is necessary to analyze the factors influence the milkfish pond cultivation in this district. The model used for this purpose is the Econometrics Model or the Regression Model. The Regression Model in this study has fulfilled the requirements of a valid model, which is normal distribution data, the absent of multicollinearity, the absent of heteroscedasticity, and the absent of autocorrelation. This econometric model produces an adjusted R Square value of 79.7%. The adjusted R Square value, represents the ratio of the dependent variable prepared from the model and can influence the increase of certain value by adding certain variables. The variables that measure each independent variable are then analyzed with a control variable to determine how many, if any, additional variances measured [76].

This method also makes it possible to detect potential mediating effects. This shows that production factors (seed, feed, fertilizer, medicine, labor, and pond area) as much as 79.7% affect the production of milk fish. Furthermore, this analysis produces a P-value of 0,000, which is the result of a comparison of theoretical assumptions (sampling distribution) with real observations (data samples) [77]. A p-value smaller than the significant level $\alpha = 5\%$ indicates that the independent variables in the regression model together have a significant effect on milkfish production. Whereas if the P-value is greater than 5%, then the production factor has no effect; and P-values indicate the probability of observing differences as large or greater than what is observed. But if the factor of production has a smaller effect size, a study with a small sample may be less careful to detect it [78]. The influence of production factors on the efficiency of milkfish culture is as follows:

$$\text{Ln } Y = 2{,}742 + 0{,}018 \text{ Ln } X_1 + 0{,}341 \text{ Ln } X_2 + 0{,}09 \text{ Ln } X_3 + 0{,}130 \text{ Ln } X_4 + 0{,}275 \text{ Ln } X_5 + 0{,}340 \text{ Ln } X_6 + e \quad (3)$$

Based on the sum of the regression coefficients, the return to scale (RTS) value is 1.113. This causes the milkfish aquaculture business to be in a condition of increasing return to scale because RTS> 1, which means that if production inputs are increased together by one percent, it will cause an increase in output by 1,113%. This also causes the cultivation business to be in an irrational area (EP> 1) so that the milkfish cultivation business can still be increased until it is in the rational area ($0 \leq RTS \geq 1$) so that it will be optimal.

The spread of seedlings (X1) as many as 4283.13 fish per ha, had a positive effect on milkfish production but did not have a significant effect because the seeds used were not superior and not yet certified. The production elasticity for seedlings is 0.018, indicating that the seedlings are in a rational area ($0 \leq RTS \geq 1$), per ha per season, significant effect because P-Value 0,000 <0.05. The production elasticity for feed is 0.341. The feed elasticity value indicates that the feed is in the rational area ($0 \leq RTS \geq 1$), in a constant return to scale condition. The fertilizer (X3) has no significant effect on production because of P-Value 0.875> 0.05. The use of urea fertilizer is to stimulate the growth of phytoplankton as a natural food for milkfish, but with the use of additional feed (pellets), the use of fertilizer

can be reduced so that its use becomes efficient. The production elasticity for fertilizer is 0.009, is in the rational area ($0 \leq RTS \geq 1$) and is in a constant return to scale condition.

The use of medicine (X4) of 2.16 l per ha per season has a significant effect (P-Value 0.01 <0.05) on milkfish production. The use of drugs in this pond business as a nutritional enhancer and increase the appetite for milkfish. The production elasticity for drugs is 0.130. The elasticity of production input values for X4 indicates that the drug is in the rational area ($0 \leq RTS \geq 1$), and is in a constant return to scale condition. The labor force (X5) has a significant effect (P-Value 0,000 <0.05). The average use of labor in the milkfish cultivation business is 165.20 WMD (work-man-day) per season. The elasticity of production for the variable labor is 0.275, indcates that each additional amount of labor use by one percent will increase production by 0.275 percent and the area of the pond (X6) has a significant effect (P-Value 0,000 <0.05). The elasticity of production for feed is 0.340, indicate that each additional area of ponds by 1% will increase production by 0.34 with an average area of ponds in milkfish farming is 3.90 Ha per season.

The elasticity of labor production input indicates that the drug is in the rational area ($0 \leq RTS \geq 1$). This causes that labor is in a constant return to scale condition. The interesting thing about this milkfish production is that if the factors of production are simultaneously increased, it is in a condition of increasing return to scale, whereas if it is partially increased, it is in a condition of constant return to scale. This means that if the factors of production are increased and combined appropriately, the results obtained will be better than partially increased. Based on business conditions in the increasing return to scale, it is necessary to increase the factors to the optimal conditions.

4.4. Factor Optimization (for Featured Products)

The use of production factors in the milkfish cultivation business in the research location is not yet optimal. Table 1 shows the condition of the optimization of milkfish production in Muara Gembong District, the value of marginal product (VMP), and the cost of marginal sacrifice (CMS).

Table 1. Ratio of VMP to CMS from the Production of Milkfish Cultivation in Muara Gembong District

No	Variable	Average Input/ Season	Coef.	VMP	CMS (IDR)	VMP/ CMS
1	Seed (amount)	4.283,133	0,018	131,567	120	1,096
2	Feed (kg)	1.781,928	0,341	5.991,004	3.000	1,997
3	Urea fertilizer (kg)	237,952	0,009	1.184,101	8.000	0,118
4	Medicine (liter)	2,157	0,130	1.887.138,287	35.000	53,918
5	Tenaga Kerja (WMD)	165,199	0,275	52.114,644	45.000	1,158
6	Land Size (Ha)	3,898	0,340	2.730.976,963	1.650.000	1,655

Based on the above presented data in Table 1, it can be elaborated to achieve optimal input conditions, as shown in following Figure 5

A comparison between benefits under optimal conditions and actual conditions is shown in Figure 5. There is a difference between actual input in agribusiness and its recommendation through optimization of input factors. Based on Figure 5, the benefits in optimal conditions are far greater than those in actual conditions. This is because when optimal conditions are obtained for production with a larger amount so that pond farmers are advised to produce at optimal conditions. Through the optimization analysis, it can be seen that the use of fish milk farming pond production inputs in Muara Gembong District is not optimal. This indicates that the Bekasi District Government's policies have not been fully successful in achieving the target of developing local wisdom resources. To achieve the target in line with the 2012-2017 Strategic Plan for Agriculture, the improvement is needed in primary agribusiness base and superior areas.

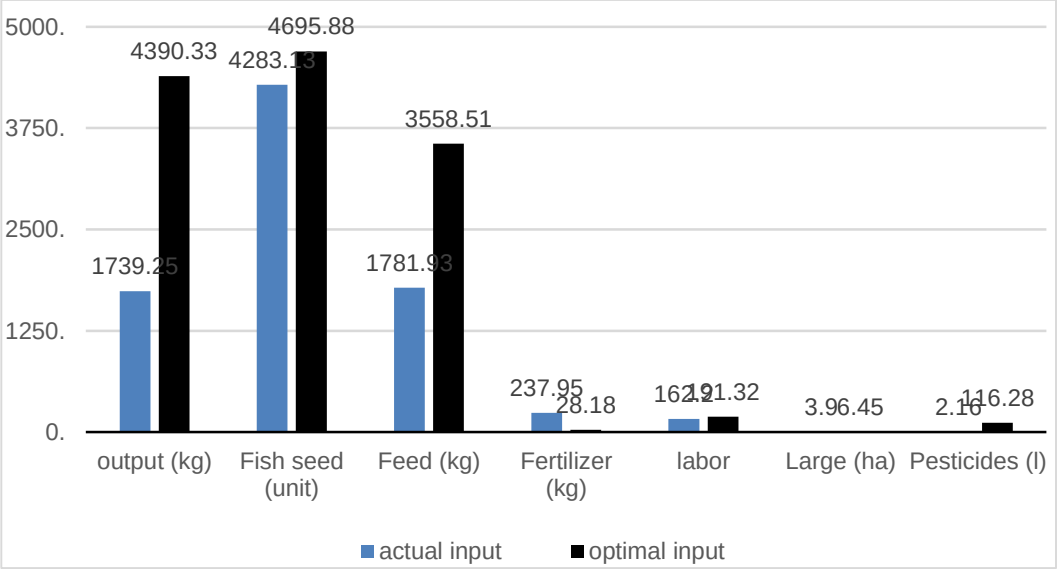

Figure 5. The Comparison between Actual and Optimal Input Factors

These improvements include: road/infrastructure improvements to enhance transportation, subsidized production inputs such as feed and fertilizer, use of superior seeds, assistance from extension workers, the role of financial institutions, cooperation with the fishery product processing industry. The milkfish cultivation business carried out by the community of Muara Gembong Sub-district is not optimal, so farmers are advised to use optimal production factors to achieve maximum profit for the 3.8 hectare pond area, namely 4,695.98 seedlings season, 3,558 feed, 51 kg/ season, urea fertilizer 28.18 kg/ season, medicine 116.28 liter/season, labor 191.32 WMD/season and addition of pond area to 6.32 ha/season, but the addition of land area is difficult to realize considering the limited land availability on the location.

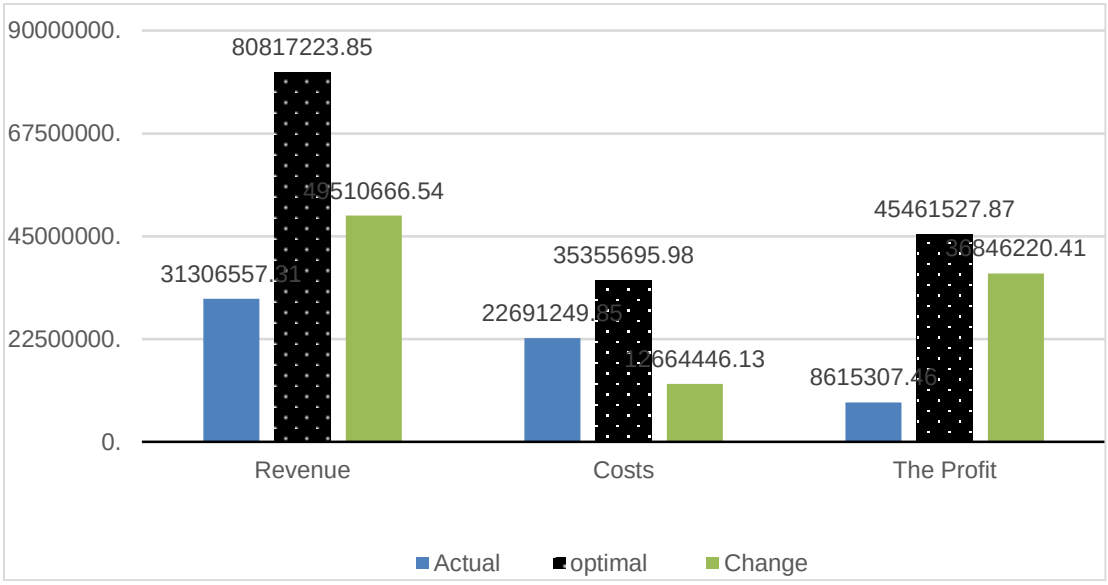

Figure 6. Comparison of Advantages of Actual Conditions with Optimal Milkfish Cultivation

The optimization is also needed specifically for other subsectors such as food crops, estate crops, livestock and forestry. This of course requires a deeper study through further research. The research for various other sectors also aims to achieve the optimal level of use of various factors of production in each leading farm for each subsector in the base region. This policy must be initiated by knowing and determining various leading sectors in various sub-districts in Bekasi Regency, so as to increase regional competitiveness in agriculture in accordance with the objectives of the 2012-2017 Strategic Plan for Agriculture Development.

5. Conclusion

The potential featured product development in the Regency of Bekasi is in the Districts of Babelan, Muara Gembong and the District of Cabangbungin. The economic structure is dominated by primary, agricultural and mining sectors (Type I). The Muara Gembong is a superior district because it produces agricultural products as a base sector. The significant factors affecting the production of milkfish pond aquaculture are feed, medicine, labor, and pond area. The milkfish cultivation is in an increasing return to scale condition, existed in an irrational area (EP> 1). The optimizing aquaculture production requires an increase in production inputs such as 4,695.98 seeds / season, 3,558.51 kg/season of feed, 116.28 liter/season of medicine, 191.32 WMD of labor/season, reduction of urea fertilizer to 28.18 kg/season, and an increase in pond area of 6.32 ha/season. However, an increase in pond area is not possible because of the limited availability of land in the Bekasi area. The Muara Gembong area has coastal and sea potential. Through optimal resource allocation, it can be developed into a *minapolitan* city or the city community based on the fish.

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