



Analysis of Local Government Policies in the Development of Aquaculture in Bandung District, West Java, Indonesia 2019

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Bandung District is one district in the province of West Java, which has a lot of potentials, one of which is the aquaculture sector. According to data from the Department of Marine and Fisheries of West Java province in 2016, the number of fisheries production reached 13.326 tonnes of Bandung regency. The purpose of this study is to analyze and devise appropriate policy recommendations for the development of aquaculture in Bandung. The method used in this research was the case study method. Analysis of the data used in this research is using the Soft Systems Methodology approach. Based on the approach to the problem of unstructured problems using existing condition which includes technical and production aspects, institutional aspects and aspects of human resources. The research was conducted in July 2019 - August 2019 in Bandung. Respondents in this study consisting of 5 people from 3 cultivators and 2 people from government agencies. The draft recommendation for government policy in the development of aquaculture in Bandung District, including repair of infrastructure, spatial planning in allocating land fish breeding in the area of fisheries management area corresponding to the parameters by optimizing land, mentoring programs on a group of fish farmers and seedlings or capital as a common practice, it is

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often done socialized about government policy. The clarity of the rule of law for the perpetrators of fish farmers, facilitate the making of fisheries licenses and training and extension done regularly and intensely.

Keywords: Bandung district; policy; aquaculture; local government regulation.

1. INTRODUCTION

Bandung District is one district that is located in the province of West Java that has a lot of potentials. Bandung district has an area of sufficient size in the amount of 176,239.67 ha. Bandung regency region crossed by a large river that is CRB. Location Regency Bandung crossed by CRB and has a large area made of Bandung Regency has a lot of potentials, one of which is the aquaculture sector.

At this time, the sector of aquaculture in Bandung District faces many obstacles, one of which is the conversion of agricultural land into non-agricultural. Conversion of agricultural land for aquaculture particularly difficult to avoid, along with the high population growth rate and the rapid industrial development, infrastructure and housing. Land use has an impact on fisheries production capacity reduction due to land conversion process is intended for the construction of residential areas.

According to data from the Department of Marine and Fisheries of West Java province in 2016 showed that the number of fisheries production reached 13 326 tonnes of Bandung regency. Fish production in Bandung Regency is the most widely cultivated freshwater fish. The fish production from aquaculture using calm water pond systems, systems jetted tub and use the system mina padi/rice fields.

The local government is an organization that has the authority to make such a policy in the form of applicable laws and legislation in an area. Aquaculture could be developed if there are a role and policies of local governments. Local government policies can help small-scale fisheries farmers in overcoming the limitations with the development of aquaculture, including in matters of land conversion.

The regional government of Bandung regency through the Department of Food and Fisheries Bandung District and Regional Planning Board District Bandyng already there is a policy in the Long Term Development Plan Area (RPJPD), Medium Term Development Plan (RPJMD), the

Strategic Plan (Plan) Department of Food and Fisheries, and Action Plans Regional Work Units (SKPD Renja) regarding the development of aquaculture. Regional Long Term Development Plan is a document that contains policies Local government within 20 years, while the Medium Term Development Plan is a document that contains the program of regional heads within 5 years. Bandung regency government policy, there are several programs, namely improving the quality of agricultural products competitive.

Aquaculture in Indonesia needs development to flourish, one of them by their local governments. Local government policies interesting to study because it will affect the course of the development of aquaculture business. Therefore, the researchers felt the need to research the Local Government Policy Analysis in the Development of Aquaculture with a Case Study in Bandung, West Java. The purpose of this study is to analyze and devise appropriate policy recommendations for the development of aquaculture in Bandung.

2. METHODOLOGY

This research was conducted in Bandung Regency. This study was conducted in July 2019 - August 2019. The collection of data and other information related to this research activity conducted observations and interviews with employees of the Department of Food and Fisheries Bandung District and fishery farmers.

2.1 Research Methods

The method used in this research was the case study method. According to Mills et al. [1] a case study is one of the first to use this type of research in the field of qualitative methodology.

This type of case study research aims to find out about something in-depth. So in this study, researchers will use the case study method to uncover regarding government policy in the development of aquaculture in Bandung.

Data and other related information collected from respondents through questionnaires. Questionnaire or a questionnaire which is a technique of collecting data through forms that contain the questions submitted in writing to a person or group of people to get answers or responses and the information required by the researcher [2].

2.2 Types and Sources of Data

The data used in this study are primary data and secondary data. Primary data is data collected through the first party, which can usually be through interviews, impressions, and other [3]. As for the source of primary data in this study are the fishery farmers and local government officials. While the secondary data is data sources that do not directly provide data to data collectors, for example through others or documents [4]. Secondary data were obtained from the Department of Food and fisheries Bandung District and Regional Development Planning Board (Bappeda) Regency Bandung. In this study, five respondents were consisting of two people from government agencies and 3 of farmers. The criteria of respondents selected in this study were respondents domiciled in Bandung District and know the policies of Bandung District in the development of aquaculture.

The data used in this research is quantitative and qualitative. Qualitative data is data presented in the verbal form of the word is not in numeric form [5]. Quantitative data is the data type that can be measured or calculated directly, in the form of information or explanation which is indicated by numbers or shaped figures [6].

2.3 Data Collection Methods

The technique used in obtaining the data from the data source (respondents) was used in this study using a purposive sampling method to fish farmers as an object of policy and local government officials as holders of authority policy. Criteria respondents on the purposive sampling method, determine government policy in the development of aquaculture and willing to become respondents. Purposive sampling is a sampling technique with a certain consideration [7]. Samples were taken by the desired criteria, meaning that the technique of taking samples with not based on random, regions or strata, but based on the consideration that focuses on specific goals or techniques for determining

sample with some specific considerations that aim that the data obtained will be more representative [6]. A questionnaire was given to the holders of authority relating to the development of aquaculture is the government officials in the Department of Food and Fisheries Bandung District and the fishery farmers who meet predetermined criteria.

In this study is meant by taking purposive is that all farmers fishery in Bandung regency and government officials Regency Bandung has an equal chance to be sampled based on where the location, anyone, anywhere and anytime when encountered, but falls within the criteria which are then used as respondents in this study.

2.4 Data Analysis

The analysis used in this research is descriptive qualitative data analysis. Analysis of descriptive qualitative data used to analyze which describe the general picture of local government policy Bandung regency in the development of aquaculture and analyze the policy recommendations for local government in taking policy decisions of local governments in the development of aquaculture from the viewpoint of stakeholders authority of local government policy and community perspective fishery farmers.

Analysis of the data used in this study using a Soft Systems Methodology approach. Soft system methodology (SSM) is a systematic research process that uses a model system [8]. According to Dalkin et al, [9] SSM is a constructivist effort that allows researchers to unravel the complexities of the real world as experienced by stakeholder's interest. The development model of the system is done by extracting unstructured problems, discuss intensively with stakeholders and undertake joint problem-solving. Seven stage in SSM according to Checkland and Scholes, [10] are:

1. Assess the unstructured problems.
2. Expressing the problem situation.
3. Build a definition of issues relating to the problem situation.
4. Building a conceptual model
5. Comparing the conceptual model problem situation.
6. Establish a viable and desirable changes
7. Take remedial action on the issue.

3. RESULTS AND DISCUSSION

Soft system methodology (SSM) is a systematic research process that uses a model system [8].

Analysis of Soft Systems Methodology will provide some form of policy recommendations concerning the development of aquaculture in Bandung District, West Java. SSM will provide some form of local government; policy improvement efforts towards the development of aquaculture so that the field of aquaculture can be developed well. Soft Systems Methodology The analysis conducted on capture fisheries development consists of several stages.

3.1 Outline Situation Problems Not Structured

Issues that are not structured in an object obtained through a form of information through the collection of primary data or secondary data. The collected information will describe some issues of the problems that will bring good shape issues, relationship conflicts, as well as other issues related, so the problem was known and understood.

Unstructured problems obtained through interviews and documents from the study respondents. Based on the information obtained from the respondents which of the group agencies Department of Food and Fisheries Bandung regency, fisheries extension and farmers explained that the main issues in the activities of the development of aquaculture is the misalignment fact among the relevant agencies as a maker of policy program and implementing a policy program with growers in

Bandung regency as an object of the policy program. Explanation details of the program can be seen in Table 1.

Based on the information obtained from the respondents during the interview, explained that the main problem in the development of aquaculture activities in Bandung regency consists of several aspects. The translation of the problem can be seen in the Table 2.

Based on the Opera-which has been obtained during the interview of the respondents are from a group of farmer’s fisheries in Bandung District said that there are some problems in the development of aquaculture. Problems in the development of aquaculture are in some aspects. The translation of the problem can be seen in the Table 3.

Based on a structured approach to the problems that do not describe the existing condition. Existing conditions include be-how aspects such as technical and production aspects, institutional aspects, and aspects of human resources.

The technical aspect is one of the processes relating to the development of technical projects. Implementation of the evaluation on this aspect can not provide basic decisions or in other words, there are several other alternative answers. Because of that, they need a similar case study however lies in another location.

Table 1. Government programs

Government programs	Reality	Translation of program
Program development of aquaculture	Not to be applied to the fullest	Development of superior fish seed Assistance to farmer groups of fish farmers: the procurement of the parent fish, feed and hatchery equipment; technical assistance fish hatcheries; procurement package koi fish farming and fish Promotion and development of fisheries: fish farming technical guidance Control of environmental health and fishery

(Source: department of food and fisheries Bandung regency 2019)

Table 2. According to the translation problem agencies

Issues	Translation of problems
Technical aspects or production	Water quality decreases Refinement land Pollution Commodities were cultivated must fit existing areas in Bandung The weather was not necessarily an obstacle so as not maximum
Aspects of human resources	Local government policies regarding fisheries development Bandung Regency is less known and understood by farmers

Table 3. Translation problems not structured according to farmers

Issues	Translation of problems
Technical aspects and production	Government Policy Program area can be deemed not evenly felt by all the farmers Reduced demand for their prohibition seed KJA Lack of socialization and information Lack of help nursery
Institutional aspects	Policy programs deemed less effective due to too many groups, while the budget slightly
Aspects of human resources	Constraints in administrative law, the financial crate should be spent Beneficiaries of the many who lack the technical understanding of fish farming

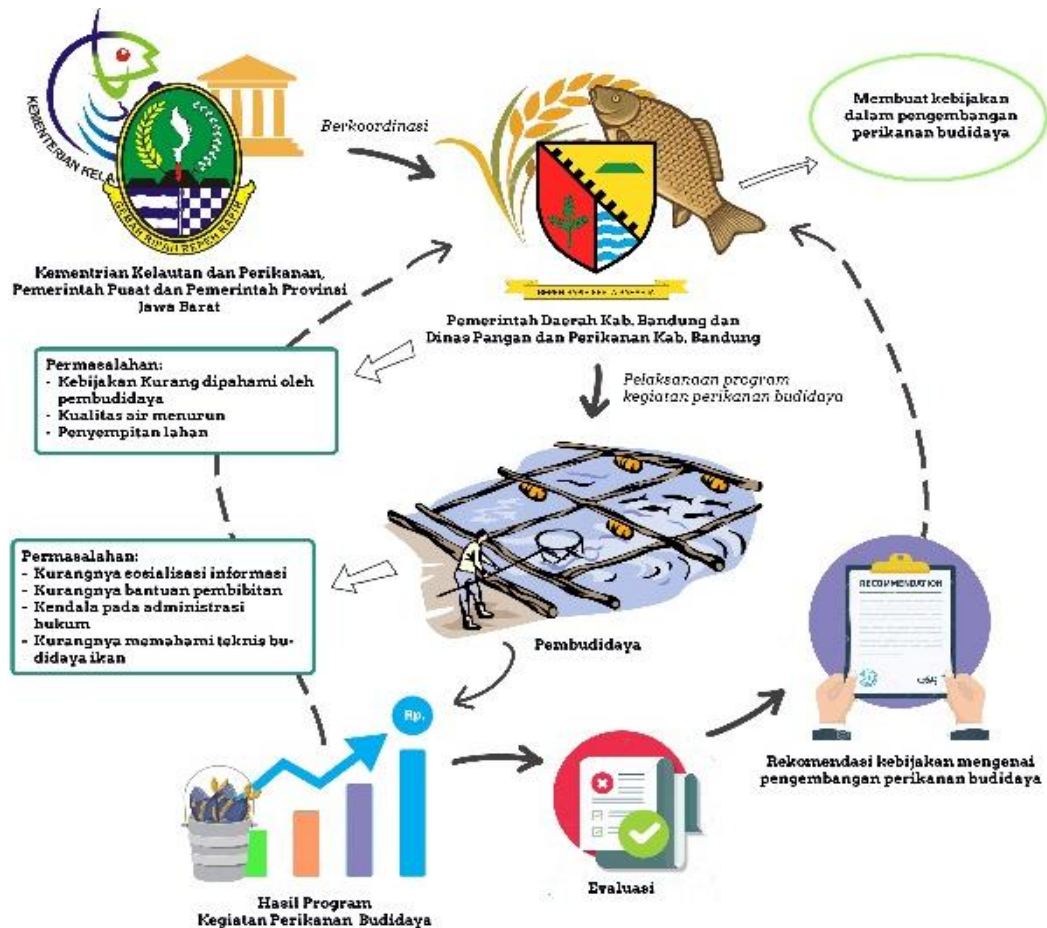


Image 1. Methods development of aquaculture

The success of the results contained in the other place can give a final decision. In the aquaculture development program in the Bandung district note must have been backing aquaculture development programs in other areas and by the Draft Long term development as well as the National Medium as a reference. The development of aquaculture in the District is in

the process of getting better in terms of facilities and infrastructure that have an impact on the outcome of aquaculture production in Bandung district.

Institutional aspect is one of the important components in a region that have the function or role as an agent of socialization planned change

grew out of the community and or initiated by the government or the relevant stakeholders. Not only that, but the institutional aspects can also serve as an important factor in the success and sustainability of the construction of the development of aquaculture in Bandung district.

Human resource is the most important factor in improving the quality of society in the development of aquaculture in Bandung. Human resources in the development process of aquaculture, namely farmer's fisheries have an important role so that the programs of development of aquaculture in the District in realized well as their socialization, training and counseling conducted by the local government district of Bandung, the Department of Food and Peri-right. Human resources are essential to run very well because of farmers fishery very active and dominant role in every activity in the aquaculture development program in Bandung.

3.2 Situation Problems

Image or picture rich role is to describe the problems that arise in the development of aquaculture in Bandung District to make it easier to understand. Methods rich picture depicted shows that activity development of aquaculture in Bandung District has not been going well as expected due to the technical aspects of production, namely the lack of help the nursery, narrowing land, water quality is declining, demand for seed reduces because of the ban on the floating net cages and government policy program were deemed not be felt equally by all the farmer's fisheries. Another problem in the institutional aspects is obstacles in the administration of the law that caused farmers to be cost pocket a hefty the farmers and local government policy program that is deemed less effective because of too many farmers groups but not comparable with the aid of a small budget. Whereas the sum-air aspects of human resources there are problems that the number of farmers who do not understand the cultivation technique is good and right after they were beneficiaries and the number of farmers is confused about the policy local governments there. Rich Picture contained in Image 1.

3.3 The System Defining Relevant

At the stage of defining a system of aquaculture development activities carried out by using the root definition. Identifying the situation and the parties involved use CATWOE is a way to identify the system. Root definition is statement the brush but not ambiguous, by specifying

owners (O), the transformation process (T) of the system to be achieved by the actors (A), the owner of a world view (W), which transforms a process that is meant for the costume (C) and environmental constraints (E) on the transformation of the system, the appropriate limits have been. Element analysis of root definition stated by CATWOE on the development of aquaculture that does Bandung district government contained in Table 4.

3.4 Suggests Conceptual Model System by the Definition

The conceptual model used to build models of human thought patterns that correspond to the definition foot who use at least one activity that can serve as an example and drawn by applying system thinking. The conceptual model is built on four stages without reference to the real world, but it is built on the idea/notion researchers based on the theory used and rules are used, so the idea of system thinking becomes important in this stage. A conceptual model is a form of thinking in the form of the theory of situations that occur in the real world that will furnish as the initial solution for the problems that occurred. The conceptual model by the problems in aquaculture development policy activities in Bandung district not structured to use the analysis of SSM (Soft Systems Methodology). Unstructured problems consist of problem aspects on the technical aspects and production, institutional aspects and human resources aspects.

To propose a conceptual model is built that is by describing activities that must be present to carry out a task which is expressed in the root definition contained in Table 4. Stages of a conceptual model, among others:

1. Root definition formulated by based its elements in the form of tables CATWOE presented in Table 4.
2. In formulating the activities of the conceptual model, the root definition is used as a reference to get recommendations for improvement.
3. Technical and production aspects, institutional aspects, and aspects of human resources in an unstructured problem used to determine the root definition.
4. The conceptual model was made to get the solution of existing problems.

Table 4. CATWOE analysis on the development of aquaculture in Bandung

Element	Information
C (Customer)	Fish farmers
A (Actor)	Bandung District Government, Department of Food and Fisheries District. Bandung, Extension Fisheries, the Ministry of Maritime Affairs and Fisheries, Government of West Java Province, cultivators fish
T (Transformation)	<p>> Procurement of facilities and infrastructure in farming activities by the Bandung District Regulation No. 22 of 2011 About Retribution Fishing Enterprises, which includes: a. ensure the sustainability of fish resources, fish breeding lands, and spatial, b. allocate land fish farming in the area of fisheries management areas, c. fish breeding and protection, d. prevention of pollution and damage to fish resources and the environment, d. rehabilitation and improvement of fish resources and the environment, d. Business licenses freshwater fish farming imposed by Article 26 corresponding with its business scale</p> <p>> Assist to increase the scale of assistance and help more evenly distributed according to the number of farmers, such as nurseries or capital support farming activities.</p> <p>> Conducting socialization government policy regarding aquaculture development, training and counseling more often done regularly and thoroughly so intense and can be delivered to all fish farmers</p> <p>> The process of making Fishery Business License (License) or the Business Registry Fisheries (TDUP) for small-scale farmers easier</p> <p>> Improving the quality of human resources in the field of aquaculture so that the development of aquaculture in Bandung can be optimally</p>
W (World-View)	Bandung District Government and fish farmers must equally understand the policies in the development of aquaculture and cooperate in the implementation of the development of aquaculture
O (Owner)	Bandung District Government, Department of Food and Fisheries District. Bandung, the Ministry of Maritime Affairs and Fisheries, Government of West Java Province, Extension Fisheries
E (Environment)	Land cultivation of fish, water quality and weather that can affect fish breeding activities

Structuring the problem and identification of factors are relevant can be assisted with the conceptual model. The conceptual model to facilitate the planning of the problem. The conceptual model can be a true representation of the phenomenon being studied. The problem can be simplified by reducing the number of properties that should be included with the help of conceptual models, making it easier to focus on essential thing.

Root definition employed to resolve water quality improvement, opening new territory devoted to agriculture, help fish breeding is propagated, additional budget to capital for farmers or a group of cultivation, the administrative law for farmers easier, the socialization of government policy in the development of aquaculture in Bandung regency done intensely so that farmers know and understand, and competent human resources in the field of aquaculture propagated so that the program can be realized with good government. This is done to increase the production of farmed fish and more small-scale fish farmers prosper.

3.5 Comparing Conceptual Models with Real World

Comparing the conceptual model that has been created with the real world, it is stated in the table shows:

- a. Systematic differences between the real world with the world model
- b. Issues for further declared to the relevant parties (stakeholders)
- c. Draft action to change the situation, which should be taken of the design changes made to the model

The results compare with a conceptual model of the real world in local government policy in development of aquaculture cultivation of engineering and production aspects, institutional aspects, and aspects of human resources in Bandung contained in the Table 5.

3.6 Changes Systematically

SSM's sixth stage is formulating suggestions the follow for repairs, improvements and changes in real-world situations. Systematically change is to define and select options to achieve the desired ideal conditions. This improvement is an effort to fix the problems in the development of aquaculture in Bandung district. Research using

the SSM-in is expected to provide a positive change in the community and provide benefits for a longer period. After compares conceptual model to the real world, there are few results to get the expected systemic changes are:

1. Maintaining water quality or fish farming environment in accordance with the parameters of water quality for freshwater fish farming.
2. Spatial planning in the development of aquaculture, particularly mengalokasikan fish farming land in the area of fisheries management area having regard to the parameters of land for fish farming, such as the type of soil topography, land use of an area as well as water conditions.
3. Program assistance to farmer groups pembuidaya fish and fingerlings or capital support aquaculture activities evenly distributed so that all fish farmers in Bandung Regency can feel the existing government policy.
4. Clarity regarding the legal administration and ease in making a business license in the aspect persayratan fisheries and charges are not burdensome fish farmers.
5. Socialization of the government policy in the development of aquaculture in Bandung regency is more often done regularly and intensely.
6. Implement guidance for the community in the form of counseling or education about the means freshwater aquaculture production, which has the objective to improve the quality of human resources to manage aquaculture well.

3.7 Measures to Improve Situation Problems

Problem situations can be improvement in local government policy in the development of aquaculture. In the Tables of 4 and 5 who is a conceptual model to describe the steps in the improvement efforts should be made by the Local Government Bandung District in policy making regarding the development of aquaculture. Efforts to repair that can be done is:

- 1) Maintaining water quality or fish farming environment in accordance in accordance with the parameters of water quality for freshwater fish farming.

Table 5. Conceptual model comparison on the real world aquaculture development in Bandung regency

No.	Model Real World	Conceptual model
1	Water quality at the Bandung District majority already polluted industrial waste can be seen from the color and smell of the water. According to Handinata (2017), the results demonstrate the value of ecological research status using the latest index where the range of values that are in the 2.67 to 7.78 was slightly polluted to polluted medium.	Water quality standards for freshwater fish farming is, in the 6.5-7.5 pH range, salinity ranges from 0-3 ppt, Co2 levels <10 mg/l, dissolved oxygen levels <5 mg/l. Based on the Bandung District Regulation No. 22 of 2011 Section 8 Levies Fishing Enterprises, said about pollution prevention and damage to fish resources and the environment as well as the rehabilitation and improvement of fish resources and the environment.
2	Land for fish farming dwindle because of the construction of residential or industrial	Based on the Bandung District Regulation No. 22 of 2011 Section 8 Levies Fishing Enterprises, stated: "To execute policy management of fish resources, Regents set allocate fish farming land in the area of fisheries management areas." Parameters of land for the cultivation of freshwater fish, which topography, soil type, land use of an area as well as water conditions [11]
3	Fish seed capital assistance and uneven due to the budget for help not proportional to the number farmer's fisheries / group of farmers	Group of farmer's fisheries mentoring program at farmer's fisheries, one of which procurement parent fish and fish hatchery technical assistance
4	The cost for the administration of the law is considered tolerable burden farmers and lack of socialization administration less detail	Based on the Bandung District Regulation No. 22 of 2011 Section 26 Levies Fishing Enterprises, stating the amount of the levy is determined as follows: a. The license in public waters for commercial fishing businesses that are set at Rp. 100,000.00/3 years; b. Business license in freshwater fish farming tariffs: jetted to an area <50 m ² is TUDP and issued tariff of Rp. 400.00/m ² /3 years - Rp. 600.00/m ² /3 years based on the vast territory; for the KJA on public waters with holdings <1 unit (4 plots) is TUDP, while ownership > 1 unit (4 plots) imposed a cost of Rp. 400.00/m ² /3 years - Rp. 500.00/m ² /3 years, for calm water pond with an area <500 m ² is TUPD while for Area 500 m ² to > 2000 m ² tariffs as high as Rp. 30.00/m ² /3 years - Rp. 50, 00/m ² /3 years; while for the cultivation of ornamental fish pond with a turnover (sales revenue/month), to <5 million is TUDP, while for a turnover of 5.1 million to > 100 million diknakan tariff of Rp. 250,000.00/3 years - Rp. 2.500.000,00/3 years by the turnover.
5	The number of farmers who are not informed about government policy in the development of aquaculture so that government programs can not be run optimally	Fish farmers have an important role in supporting and running the program on local government policy in the development of aquaculture in Bandung
6	The lack of competent human resources in the field of aquaculture in Bandung District	Implement guidance for the community in the form of counseling or education about the means freshwater aquaculture production, which has the objective to improve the quality of human resources to manage aquaculture well.

- 2) Spatial planning in the development of aquaculture, particularly mengalokasikan fish farming land in the area of fisheries management area having regard to the parameters of land for fish farming, such as the type of soil topography, land use of an area as well as water conditions. The region has the potential for farm management, among others, the District Ciparay, District Ibun, and District Soreang.
- 3) Program assistance to farmer groups pembudidaya fish and fingerlings or capital support aquaculture activities evenly distributed so that all fish farmers in Bandung Regency can feel the existing government policy.
- 4) Clarity regarding the legal administration and ease in making a business license in the aspect persayratan fisheries and charges are not burdensome fish farmers.
- 5) Socialization of the government policy in the development of aquaculture in Bandung regency is more often done regularly and intensely.
- 6) Implement guidance for the community in the form of counseling or education on freshwater fish farming technique is good and right and the means of production of freshwater fish farming, which has the objective to improve the quality of human resources to manage aquaculture well.

Repair facilities and infrastructure is one very important factor in influencing the course of aquaculture, in line with the policy recommendations given by Nursyahbani et al. [12] Program policy aquaculture development in the district of Pangandaran requires strategic recommendations that the procurement of facilities and infrastructure, the assessment of the distribution of supervision fair and object determination in accordance with the recommendations of the assistance community leaders, extension workers, NGOs and community groups. Also the establishment menyerakkan recruitment of human resources in the field of maritime affairs and fisheries from local governments to the central government and the Ministry of Maritime Affairs and fisheries of the Republic of Indonesia.

According Ambasari et al. [13] Strategies undertaken for the development of cultivated areas in East Lampung district, namely, to capture the participation of stakeholders, including fish farmers, fisheries entrepreneurs,

scientists, extension workers, security officers and bureaucrats in order to protect, maintain and manage ingkungan aquaculture; build supporting facilities consist of physical facilities and institutional (financial institutions, insurance, NGOs, marketing, and law associations). These support the regional development of aquaculture; establishing access to distribution, pemesaran, availability of fishery production and anticipated environmental damage; enforce the law clearly and unequivocally for the members of the stakeholders who violate the rules that have been established and agreed upon; and provide incentives for stakeholders who want to run peratiran predetermined and agreed (seed subsidies, feed subsidies, compensation and so on). There are several strategies that need to be considered in the development of aquaculture-based Blue Economic (BE) so that its implementation is well developed, such as the development of Human Resources (HR) is involved directly or indirectly in the activities of aquaculture. The feasibility analysis of commodities that can be used in the implementation Driven by the integrated aquaculture bE/IMTA, feasibility analysis more detailed land for the development of fishery cultivation integrity locations. The need for socialization program from the center to the regions so that it can be implemented properly [14].

Counseling is needed in the development of aquaculture in order to improve the knowledge of the fish farmers on techniques for fish farming is good and right and can increase fish production if the farmers use proper technique when performing fish. The growth of aquaculture in the central and northern regions of Uganda showed a slower due to institutional and social factors on the alignment of the provision of extension services to the needs of fish farmers [15]. Commercial-oriented or not, approaches and instruments chosen to support the development of aquaculture, there must be the principles of good governance and take into account the interaction with other sectors [16].

4. CONCLUSION

The draft recommendation for government policy in the development of aquaculture in Bandung District, including repair of infrastructure, spatial planning in allocating land fish breeding in the area of fisheries management area corresponding to the parameters by optimizing land, mentoring programs on a group of fish

farmers and seedlings or capital as a common practice, it is often done socialized about government policy, the clarity of the rule of law for the perpetrators of fish farmers, facilitate the making of fisheries licenses, and training and extension done regularly and intensely.

CONSENT

As per international standard informed and written participant consent has been collected and preserved by the authors.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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