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GOVERNMENT POLICY STRATEGY IN THE DEVELOPMENT OF AQUACULTURE IN PANGANDARAN REGENCY, WEST JAVA PROVINCE

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ABSTRACT

Pangandaran Regency is one of the regencies in West Java Province with the capital of the Regency located in Parigi District. The Pangandaran area produces aquaculture ponds, marine fish culture, and also produces fresh fish culture which mainly comes from pond water, swift water ponds and floating net ponds. Therefore a regional government policy strategy is needed to improve the welfare of farmers in Pangandaran district. This research aims to describe the profile of local government policy strategies in the past five years as an effort to develop aquaculture in Pangandaran Regency and to analyze the policies that have been implemented so that they can be recommended in the field of aquaculture. The research method used in this research is a descriptive method on the basis of case studies. Analysis of the data used in this study uses theapproach *Soft System Methodology*. Based on the problem approach, the unstructured problem illustrates the exiting condition. Exiting conditions include technical or production aspects, institutional aspects, and aspects of Human Resources.

Keywords: Pangandaran, Policy, Aquaculture, *Soft System Methodology*.

1. INTRODUCTION

Pangandaran Regency is one of the regencies in West Java Province with the Capital City of the Regency located in Parigi District. Pangandaran Regency with a total area of 1,010 km^2, was formed based on Law Number 21 of 2012 concerning the Establishment of Pangandaran Regency in West Java Province. Based on astronomical location, Pangandaran Regency is located at 108 ° 8'0 "to 108 ° 50'0" East Longitude and 7 ° 24'0 "to 7 ° 54'20" South Latitude.

In total, the population in Pangandaran Regency as of the end of December 2013 was 422,586 people. With a population composition, there are 210,564 men and 212,022 people (BPS 2014). This area is a mainstay of the fisheries sector. The fisheries sector is noted to have contributed greatly to the welfare of the people in the region. Pangadari whose position is located on the southern coast of the island of Java which has the potential to develop aquaculture ponds, freshwater cultivation and marine aquaculture.

The Pangandaran area produces aquaculture ponds, marine fish culture, and also produces fresh fish culture which mainly comes from pond water, swift water ponds and floating net ponds. Therefore a regional government policy strategy is needed to improve the welfare of farmers in Pangandaran district.

The fisheries sector is one of the promising businesses for a bright future that is involved in the world of fisheries. Broadly speaking, the sea potential of Pangandaran is richer and broader. But sometimes there are still problems that often arise, especially for farmers who are located along the coast, there are still many who are below the poverty line. So that the intervention of the government in an effort to minimize all existing problems. At least with the government program being carried out in the fisheries sector, it is expected that there will be a slight change in the level of welfare for the coastal cultivation community which also has an important role. What may not be apparent to the general public about the lives of coastal communities is the limited level of welfare. Therefore, those who play an important role in restoring optimal conditions are government strategies that must be supported by the general public in order to achieve what is expected.

Basically, the concept of fisheries development is a fisheries development that is oriented in the field of aquaculture. The final goal is to improve the welfare of farmers in Pangadari District. These efforts have produced positive results for fisheries development in terms of qualitative. However, it cannot be denied that not all fisheries development programs carried out by the government bring the results as expected. Various criticisms have been made by many parties in connection with the government's role in realizing the shortcomings in the past and exposing the wisdom of the criticisms submitted, the government needs to try to perfect various policies that are essentially directed to encourage and protect aquaculture development.

The success of a policy if in one program that really follows the rules that exist in the policy. Then the development of fisheries in the field of aquaculture will be more insightful to the improvement of welfare and a better quality of life and it is very feasible to be developed.

The policies that need to be developed need to be prepared based on the process of fisheries development planning in the field of aquaculture, that is, knowing the environmental situation in the context of aquaculture development, for example, knowing the problems and opportunities that will be faced in fisheries development so that the policies made have referred to the results in the field of aquaculture. The regional government of Pangandaran Regency has implemented several policies in an effort to improve the welfare of farmers. Therefore, the authors are interested in raising the topic and formulating it into thesis research with the topic "Strategies of Local Government Policies in Efforts to Improve Farmer's Welfare".

2. RESEARCH METHODS

2.1 Time and Place

This research was conducted in Pangandaran Regency, the time of the study was carried out for eight months, starting in March 2019 until November 2019. Data collection and other information related to this research activity were carried out by observation and interview with the Marine Agency and Pangandaran Regency Fisheries and the cultivating community.

2.2 ResearchThe research

Methodsmethod used in this study is a descriptive method on the basis of case studies. Descriptive method can be interpreted as research carried out continuously or continuously in order to obtain a thorough knowledge of the problems, phenomena, and social forces obtained if the phenomena relations are examined in a long period. Descriptive method is a method used to describe or analyze a research result but is not used to make broader conclusions. (Sugiyono 2005). The research method used in this research is to use case studies. Case studies are a method applied to understand individuals more deeply by practicing integratively and comprehensively. This is done so that researchers can gather and gain a deep understanding of the individual under study, the following problems encountered so that it can be resolved and make the individual self develop better. (Susilo. 2011)

Data and information were collected from respondents through questionnaires. The questionnaire is a number of questions or written statements about factual data or opinions related to the respondent's self, which are considered facts or truths that are

known and need to be answered by the respondent. Questionnaire in the form of a list of questions. The desired expectation through the preparation of the questionnaire is being able to know what variables according to the respondents are important.

2.3 Sources and Types of Data

Sources of data used in this research are two types, namely primary data and secondary data. Primary data is data collected through the first party, usually through interviews, traces and others. (Suharsimi Arikunto 2010). Primary data is taken directly from the field with direct interview techniques with respondents, namely local government officials and farmers using questionnaires. Secondary data is a data source that does not directly provide data to data collectors, for example through other people or through documents. (Sugiyono 2015). Secondary data came from the Department of Maritime Affairs and Fisheries in Pangandaran Regency.

The type of data used is qualitative data. Qualitative data are methods for exploring and understanding the meaning by a number of individuals or groups of people ascribed to social or humanitarian problems. (Creswell 2010).

2.4 DataMethods Data

Collectioncollection is done by sampling. The sampling technique used is using purposive sampling method to the farmers and also the government. Samples are taken in accordance with the desired criteria, meaning that the sampling technique is not based on random, regional or stratum, but based on the existence of considerations that focus on specific objectives or techniques to determine research samples with certain considerations aimed at making the data obtained can be more representative (Sugiyono 2010). While the questionnaire given to the government apparatuses is to the authorities concerned with the development of aquaculture in the Pangandaran Regency Marine and Fisheries Service.

This study uses a sampling method that is in accordance with the criteria that all farmers in Pangandaran Regency, West Java have the same opportunity to be taken as a sample, based on location, anyone, anywhere and anytime when found which is then used as a respondent in this study.

2.5 Data Analysis Data

analysis used in this study is descriptive qualitative data analysis. Qualitative descriptive data analysis is an analysis that describes the general description of Pangandaran Regency's local government policy strategy and analyzes policies that can be recommended in the development of aquaculture in Pangandaran Regency from the perspective of local government policy authority and the perspective of the cultivator community.

Analysis of the data used in this study uses the Soft System Methodology approach. Checkland and Scholes 1990 in Alamsyah 2012 emphasized that Soft System Methodology (SSM) is an ongoing process but the stages in SSM are not rigid so they can be adapted to the situation in their implementation. Brocklesby 1995 in Alamsyah 2012, stated that in its use it is not fixed that the process must be partially advanced, but the movement of each stage in the SSM can go forward or back to each stage. Maqsood et al 2001 in Alamsyah 2012, stated that research can begin at any stage with literacy and retrieval as important components. The seven stages according to (Checkland & Scholes 1990 in Alamsyah 2012) are:

(1) Assessing unstructured problems.
(2) Express the problem situation.
(3) Building a problem definition relating to the problem situation.
(4) Building conceptual models
(5) Comparing conceptual models with problem situations.
(6) Establishing appropriate and desired changes
(7) Performing corrective actions to the problem.

3. RESULTS AND DISCUSSION

3.1 Analysis of Soft Systems Methodology on Government Policy in the Development of Aquaculture Fisheries

Soft systems methodology (SSM) is a systemic research process which in its implementation uses system models (Chekland 1990). Soft System Methodology analysis will provide a form of development strategy for aquaculture in Pangandaran Regency. SSM will provide a form of effort to improve the government's strategy for the development of aquaculture so that the aquaculture sector is increasingly feasible to continue to be developed. Soft System Methodology analysis conducted on the development of aquaculture consists of several stages.

3.1.1 Describing the Situation of UnstructuredUnstructured

Problemsproblems in an object are obtained through a form of information through primary or secondary data collection. The results of information gathering will illustrate a number of problems from these problems which will bring up a good form of the issue, conflict relations, and other related problems, so that the problem is known as well as understood.
Unstructured problems are obtained through interviews and document studies from respondents. Based on information obtained from respondents namely from the group of agencies of the Office of Maritime Affairs, Fisheries and Food Security in Pangandaran Regency, fisheries counselors and cultivators explained that the main problem in aquaculture development activities is the factual discrepancy between the relevant agencies as policy makers and implementing policy programs with local farmers as objects of the policy program. Detailed program details can be seen in table 1.

Table 1. Government ProgramsGovernment

NO	Programs Program	Descriptions
1.	Empowering Small Cultivation Communities	- Development of aquaculture facilities and infrastructure: government assistance in the form of feed, seeds, and tools for fish farming. - Development of a community watchdog group: the Pangandaran District Pokmaswas in collaboration with the nature and environment lover community to oversee the conservation and levies areas. In Pangandaran district there are two groups of pokmaswas namely pokmaswas at sea and pokmaswas (Mainland Public Waters) due to lack of human resources.

A good government policy program will be one of the success factors that will give the best results on the development of aquaculture. The implementation of the policy program in Pangandaran Regency can be seen in table 2.

Table 2. Application of the Policy Program

NO	Program	Translation
1.	Small community empowerment	- Development of aquaculture facilities and infrastructure: government assistance in the form of feed, seeds, and tools for fish farming. - Development of a community watchdog group: the Pangandaran District Pokmaswas in collaboration with the nature and environment lover community to oversee the conservation and levies areas. In Pangandaran district there are two groups of pokmaswas namely pokmaswas at sea and pokmaswas (Mainland Public Waters) due to lack of human resources.

Based on information obtained from respondents namely the Regional Government of Pangandaran Regency, the Department of Maritime Affairs, Fisheries and Food Security of Pangandaran Regency, and the Fisheries Extension Service of Pangandaran Regency explained that the main problems in aquaculture development activities in Pangandaran Regency consisted of one problem. These problems consist of problems in aspects of human resources, technical aspects or aspects of production, as well as economic aspects. The description of the problem can be seen in table 3.

Table 3. Explanation of Unstructured Problems According to InstitutionsNon-

Explanation of Problems
Fish ponds are still in the process of development . Limited availability of natural food because it depends on nature.
permanent production results due to inadequate pond conditions, prolonged drought, fish cultivation is attacked by disease, so fish yields inadequate.
Unable to meet high demand
Lack of assistance from the central government to implement programs that have been designed**.**
Adjustments to formulate policies with the conditions in the field relating to natural resources, human resources and environmental conditions from the location of the cultivation policy implementation instructions
Lack of security from the Cultivator regarding the policies of the local government of Pangandaran Regency.

Based on information obtained from respondents namely from the group of fish farmers in Pangandaran Regency explained that the main problems in the development of aquaculture development consists of three main problems. These problems consist of problems in technical aspects or production aspects, as well as problems in Institutional aspects. Explanation of the problem can be seen in table 4.

Table 4. Explanation of Unstructured Problems According to CultivatorsNon-

Problem Explanation Fishponds
are still under construction The availability of natural food is limited because it depends on nature
permanent production results caused by inadequate pond conditions, prolonged drought , the attack of fish cultivation by disease, so that the results of fish farming are insufficient.
Cannot meet high demand.
Assistance from the district government pangandaran not equally distributed to all farmers that are still farmers who do not feel any benefit from the assistance of the local government
training programs and outreach uneven so many farmers who do not follow the program
Lack of implementation of the results of the training that has been conducted

by approach to the problem unstructured problems describe exiting conditions. Exiting conditions include technical or production aspects, institutional aspects, and aspects of Human Resources.

1. Technical or Production Aspects.

The technical aspect is related to the project development process technically and its operation after the project is built. Based on this analysis it can be seen the initial design of investment cost estimation including its exploitation costs. The implementation of this aspect of evaluation is often unable to provide a standard decision, or in other words alternative answers are still available. Therefore it is very important to pay attention to one or several experiences in other similar projects in other locations that use similar techniques and operations. The successful use of similar technology in other places is very helpful in making final decisions, at least paying attention to experiences in other places cannot be ruled out. In the aquaculture development project the Pangandaran Regency government has certainly paid attention to aquaculture development projects in other locations that use similar techniques and operations as a reference in the process of aquaculture development in Pangandaran Regency. The development of aquaculture in Pangandaran Regency is in the process of development both in terms of facilities and pre facilities such as hatchery ponds, rearing ponds, feed, and fish farming equipment so that the results of aquaculture production in 2017 and 2018 have not been stable.

Tabel 5. Data Produksi Perikanan Budidaya Di Kabupaten Pangandaran

NO	YEAR	TOTAL PRODUCTION
1	2014	3,667 ton
2	2015	91,88 ton
3	2016	438,92 ton
4	2017	232,95 ton
5	2018	172,69 ton

2. InstitutionalInstitutional

Aspectsaspects are a component that important in an area, besides having a function or a role as an agent for the socialization of planned changes that grow from the community and or initiated by the government or relevant stakeholders. More than that, it can act as an adhesive and reinforce the success of the sustainable development of aquaculture development in Pangandaran Regency.

3. Aspects of Human Resources Human

resources are important assets in an effort to improve the quality of a community in the development of aquaculture development in Pangandaran Regency.

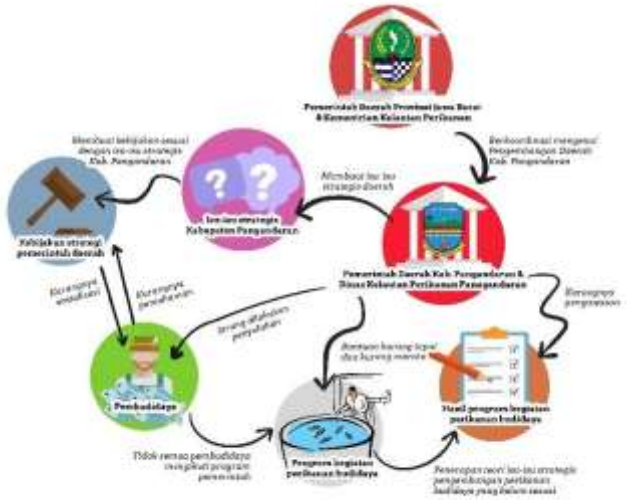
In the development process of aquaculture development, human resources cultivators play a very important role as human resources in the process of aquaculture development, so there is a program of socialization, training and counseling from the local government of Pangandaran Regency, the Department of Maritime Affairs, Fisheries and Food Security Pangandaran Regency and Extension Pangandaran Regency fishery is very important to be realized. The need for human resources to be managed properly because farmers are very active and dominant role in every activity in the development process of aquaculture development in Pangandaran Regency.

3.1.2 Stateing the Problem Situation The

rich picture method in the development of aquaculture can be seen in Figure 1. The rich picture depicted in Figure 1, shows that the aquaculture development activities in Pangandaran Regency have not yet worked well due to technical and production aspects, namely the availability of natural food which is limited because it depends on nature, availability of facilities and pre facilities and human resources owned by fisheries actors which are still under construction and repair, production results are not fixed due to

inadequate pond conditions and assistive devices so that fish farming areas are less extensive and lack of information regarding weather forecasts to farmers who will conduct aquaculture at sea. Another problem illustrated in the rich picture is the aspect of governance where training and outreach programs are not evenly distributed so that many farmers do not participate in the program, uneven government assistance and lack of application of the programs that have been implemented. Another problem illustrated in the rich picture is the aspect of human resources, namely the lack of understanding of the farmers regarding the policies of the local government of Pangandaran Regency.

Figure1.Method of Aquaculture Fisheries Development



3.1.3 Defining the System Relevantly The

activity of defining the system in aquaculture development activities is carried out by stating the root definition. The activity of defining the system is done by identifying the elements of the situation and the parties involved using CATWOE. Root definition is a brief statement that is not ambiguous, by specifying the owners (O), transformation process (T) of the system to be achieved by actors (A), world view / weltanschauung (W) owners who make transformation a meaningful process for the customer (C), and environmental constraints (E) on the transformation of the system, according to the constraints chosen.

Elements of the root definition analysis stated by CATWOE on aquaculture development conducted by the Pangandaran District Government can be seen in table 6.

Table 6. CATWOE analysis on the development of Pangandaran aquaculture.

Element	**Information**
C *(Customer)*	Cultivator
A *(Actor)*	Ministry of Maritime Affairs and Fisheries, West Java Provincial Government, Pangandaran District Government, Marine, Fisheries and Food Security Services, Pangandaran Regency Licensing Service, Directorate of Sea Transportation, Fisheries Extension Service, Cultivators, Group Supervisory Society, Non-Governmental Organization, and Cooperative Unit of MinasariVillage
T *(Transformation)* -	Procurement of facilities and infrastructure in accordance with Perda No. 20 of 2016 include: a. Land and water; b. fueling stations for fish breeding; c. Water drainage; d. electricity network and clean water; and e. refrigerated and / or freezing storage. In an effort to realize the facilities and infrastructure, the following efforts are made: -Do improve aquaculture facilities and infrastructure by completing the construction and improvement of aquaculture facilities. **-**Continuing assistance by increasing the scale of assistance and equitable distribution of assistance in the form of feed and seeds given the large number of farmers both in terms of improving the condition of ponds and cultivation aids as well as irrigation facilities for fish farming. In an effort to realize the program that has been designed - Continuing capital assistance by increasing the scale of giving and equity in the form of venture capital for the

	application of training that has been carried out given the very large number of farmers. - Equitable training and socialization program for farmers. -Conduct moresocialization and training *intense* and broaden the scope so that farmers will understand more about the policies of the local government given the large number of farmers. -Improve the quality of human resources in the field of fisheries and marine science so that the development of aquaculture is evenly distributed given the large number of cultivators.
W *(World-view)*	Understanding between the government and farmers must cooperate in the implementation of aquaculture development.
O *(Owner)*	Ministry of Maritime Affairs and Fisheries, Regional Government of West Java Province, Regional Government of Pangandaran Regency, Department of Maritime Affairs, Fisheries and Food Security, and Fisheries counselors.
E *(Environment)*	- The quality and quantity of waters that are erratic so that it affects fishing activities.

3.1.4 Presenting the Conceptual Model of the System in accordance with the Definition

To be able to express the conceptual model that will be built is by describing the activities that must exist to carry out the tasks stated in the root definition that has been presented in the matrix presented in table 8.

To create the model The conceptual begins with:

1. Formulating the root definition based on its constituent elements, namely CATWOE presented in the matrix presented in table 2.
2. The root definition was used for reference in the activities of formulating a conceptual model that would be recommended for improvement.
3. Determination of the root definition on technical or production aspects, governance aspects, and aspects of human resources.
4. Creating a conceptual model into a solution to existing problems.

Conceptual models can help in structuring problems and can identify relevant factors. Conceptual models will provide connections that make it easier to map problems. The conceptual model can be a true representation of the phenomenon being studied. The conceptual model will help simplify the problem by reducing the number of properties that must be included, so that it is easier to focus on the essentials.

The application of the root definition is done by completing the construction of aquaculture ponds and fish auction sites in accordance with the principles of Hygienic Fish Auction Points and by equalizing and adding capital assistance such as seeds, feed, fishing aids, fish farming equipment, other fish farming needs and fish farming capital. The addition of competent human resources in the field of fisheries and marine affairs is carried out as an effort to equalize the socialization and training program up to its application. This is done in order to increase the production of fish cultivators can create fish production from aquaculture so that the family of farmers can have additional income.

3.1.5 Comparing Conceptual Models with the Real World

Comparing conceptual models that have been made with the real world, expressed in the table that shows:

a. Systematic differences between the real world and the model world,
b. Problems to be stated further to relevant parties (stakeholders)
c. The design of actions to change the situation, the planned changes that must be made to the model of

this activity will later describe the conditions that exist in aquaculture development activities in Pangandaran Regency. The conceptual model that is built without referring to the real world (real world), but is built from the ideas / ideas of researchers based on the theories used and formal rules that apply, so that the idea of thinking systems (systems thinking) becomes important in this stage. The results of the conceptual model on the development of aquaculture from technical or production aspects, governance aspects and aspects of human resources in Pangandaran Regency are as follows:

Table 7. Comparison of Conceptual Models with the Real World in the Development of Aquaculture Fisheries in Pangandaran Regency.

NO	**Real World**	**Model Conceptual Model**

1	- Not evenly distributed assistance in the form of feed and seeds for farmers. -No presence of a refueling station for Cultivators. -The irrigation channel is still under construction.	- Procurement of facilities and infrastructure in accordance with Bylaw No. 20 of 2016 include: a. Land and water; b. fueling stations for fish breeding; c. Water drainage; d. electricity network and clean water; and e. refrigerated and / or freezing storage.
2	Needs for assistance and capital.	-Channel aid in accordance with recommendations from community leaders, extension workers, NGOs and community groups.
3	Human resources in the field of fisheries and strength in the Regional Government of Pangandaran Regency are still limited.	- Increase the quantity and quality of human resources in the field of marine and fisheries

3.1.6 Systematic changes

The sixth stage of the SSM is the stage of formulating action recommendations for improvement, refinement, and change in the real world situation. Systematic change is defining and selecting options to achieve ideal conditions. This change was made as an effort to improve the problems that occur in the development of aquaculture in Pangandaran District. Action research-based SSM requires positive change and provides benefits for a long period of time.

Based on the conceptual model that has been presented, as well as making comparisons with the real world, it can be said that the expected systematic change in technical and production aspects is to make policies regarding the supervision of aquaculture development in accordance with the SOP, make a planning plan on the completion of aquaculture facilities, Make a schedule of periodic checks to the field to find out the process of development regarding the development process of the development of aquaculture facilities. The expected systematic change in the aspect of governance is to conduct an assessment of the distribution of supervision and the determination of the object of assistance in accordance with the recommendations of community leaders, extension workers, and community groups. The expected systematic change in the aspect of human resources is to conduct an assessment of the distribution of supervision and the determination of the object of assistance in accordance with the recommendations of community leaders, extension workers, and Pokmaswas.

3.1.7 Actions to Improve the problem situation

Efforts to improve the technical aspects are to establish cooperation between relevant agencies so that the construction of aquaculture facilities can proceed as desired and the settlement is timely. Improvement efforts that can be done to change the aspects of governance is to establish good cooperation between local governments, the marine fisheries service and food security, with extension workers, community groups and community leaders so that the distribution and distribution of aid as expected. Aspects of human resources improvement efforts can be done by establishing cooperation between local governments, the marine fisheries and food security department with the provincial government of West Java and the Ministry of Maritime Affairs and Fisheries.

Conclusion

Based on the results of research on Aquaculture Development in Pangandaran District, it can be concluded that: The

1. program being carried out in the development of aquaculture is the development of aquaculture facilities and infrastructure in the form of feed and seed assistance. For this reason, the development of aquaculture in Pangandaran Regency is still under construction, in the medium-term development plan the area of aquaculture development is carried out in 5 years while in Pangandaran Regency it has only been running for 2 years.
2. Aquaculture development policy program that is still in the process, namely the procurement program for aquaculture facilities and infrastructure, aid and capital programs and inadequate socialization due to lack of human resources in the field of fisheries and marine affairs so that it needs to be continued and scaled up and spread more broadly given the large number farmers in Pangandaran Regency. So the recommended strategies are:
   (1) Procurement of facilities and infrastructure in accordance with Bylaw No. 20 of 2016 include: a. Land and water; b. fueling stations for fish breeding; c. Water drainage; d. electricity network and clean water; and e. refrigerated storage areas and / or freezing (2) Assessment of equitable distribution of supervision and determination of aid objects in accordance with recommendations of community leaders, extension workers, NGOs and community groups. (3) Submitting the formation of recruitment of human resources in the field of marine and fisheries to the Regional Government of West Java Province to be submitted to the Central Government and the Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia.good relations with the Regional Government of West Java Province and the Ministry of Maritime Affairs and Fisheries of the Republic of Indonesia

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