



## IMPLEMENTATION OF FISHERIES MANAGEMENT POLICY IN SUMEDANG DISTRICT JATIGEDE RESERVOIR, WEST JAVA

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### ABSTRACT

*This research aims to evaluate the application of fisheries sector management policies in Jatigede Reservoir, Sumedang District, West Java. This research was conducted in Jatigede Reservoir which inundated five subdistricts namely Darmaraja, Wado, Jatinunggal, Jatigede, and Cisitu Subdistricts in Sumedang District, West Java. The research was began in October 2018 until March 2019. The method used was the Likert scale and analyzed descriptive. The sampling technique used a purposive sampling method of 30 respondents. The selection of respondents is based on their ability background, interests, and have influence in their existence KJA in the Jatigede Reservoir, Sumedang District, West Java. Based on this results of the research, there are still infraction of Perda No 2 of 2012 article 49 paragraph 8 issued by the district government of Sumedang regarding the prohibition of aquaculture activities using floating net cages with an average index of 49.33%, and Perda No 2 of 2012 article 48 paragraph 5 concerning prohibitions to construct a building in protected areas (sempadan) Jatigede Reservoir with an average index of 60.5%. The solution needed is to make a spatial map of the Jatigede Reservoir area, impose sanctions if there are infraction, and execute socialization to the community regarding the prohibition on the construct a floating net cages and to construct a building in sempadan area of the Jatigede Reservoir.*

Keywords: Implementation, Jatigede Reservoir, Floating Net Cage

## INTRODUCTION

The Construction of the Jatigede Reservoir submerged 5 sub-districts, including the Jatigede District, Cisitu District, Darmaraja District, Wado District, and Jatinunggal District. This reservoir has an inundation area of around 4,122 ha (41.22 km<sup>2</sup>) (BAPPEDA, Sumedang Regency, 2013). The main function of this reservoir is as an irrigation facility covering 90,000 ha in the North Coast region of West Java and also as a hydroelectric power plant (PLTA) that is capable of producing electricity with a capacity of 110 mega watts, and providing raw water with a capacity of 3,500 liters per second for the area Sumedang, Indramayu, Majalengka and Cirebon (Setiawan 2017).

The Jatigede Reservoir currently has functions in the fields of capture fisheries, tourism, and power plants for the surrounding area. Fishing activities in the Jatigede Reservoir are used by the surrounding community as a business activity or source of livelihood. Fish living in the Jatigede Reservoir contain nutrients that are good for consumption as food ingredients because they contain important substances for the body such as protein, fat, carbohydrates and different nutrient levels for each species (Herawati et al. 2018). Regional Regulation No. 2 of 2012

article 52 is one of the policies issued by the regional government of Sumedang Regency which serves to maintain the Jatigede Reservoir in its sustainability. The regulation contains a ban on the existence of inland aquaculture activities with floating nets in the Jatigede dam area. Fishing activities are permitted on condition that they do not damage the waters. In the regulation, the permissible fishing activities are fishing activities in the Jatigede Reservoir.

According to Mulyadi and Atmaja's research (2011) it is recommended to develop floating net aquaculture at reservoir locations because the status of reservoir water quality that is often carried out by floating net cultivation has a value of C which means that the quality of waters for fisheries is low and does not meet the specified threshold standards . The presence of waste from leftover feed can cause a decrease in water quality and can also damage equipment or turbines. The use of reservoirs as public waters for KJA fish cultivation is principally permitted as long as it does not exceed the threshold limit of the reservoir area and does not disturb the main function of the reservoir as a hydroelectric power plant (Nurhayati et al. 2018).

The social problems found in the construction of the Jatigede Reservoir are quite complex, this is due to the length of time between developments, however various elements continue to work on resolving these social problems. Compensation issues, relocation problems, panundung money problems, social change problems from farming communities to communities raising freshwater fish continue to be handled and resolved by the government, the community, the private sector, and other community elements (Purnama 2015).

The Jatigede Reservoir, which is still in force for the cultivation of floating net cages, appears new people from the community who are cultivating floating net cages. Survey results of the condition of the Jatigede Reservoir in April 2018 there have been several floating net cages established in the waters of the Lewihideung area, and Marongbong. Efforts to manage Jatigede Reservoir require further planning and supervision. The management aims to ensure the functioning of the reservoir that remains optimal and sustainable, management activities must be emphasized in efforts to secure the reservoir.

## RESEARCH METHODS

### Time and Place

This research was conducted from January to February 2019 which took place at the Jatigede Reservoir, Sumedang Regency, West Java.

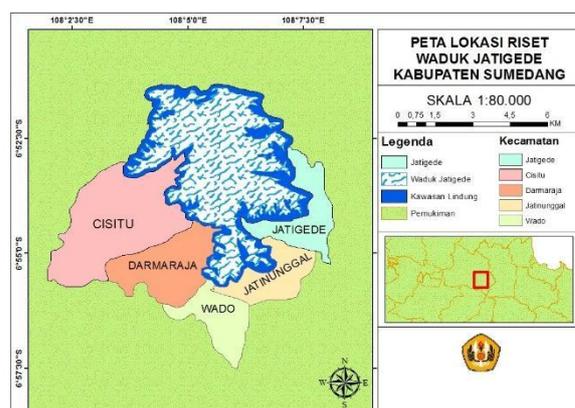


Figure 1. Map of research sites

### Research Methods

The method used the case study method (*casestudy*) described in descriptive qualitative. The technique used in obtaining data in this research is *Purposive sampling*, this technique is used to conduct interviews with respondents. Respondents are limited to 30 people who have interests and relationships with the floating net cage activities such as KJA owners or KJA field officers. The minimum number of respondents is 30 respondents so that homogeneous data is obtained. The type of data used in this study are primary data and secondary data, primary data obtained from interviews with KJA owners or KJA field officers in the Jatigede Reservoir. Secondary data is data that is used by researchers as material to support research

and is obtained by reading or studying and understanding through media such as literature, books, documents, or scientific articles related to the conditions in the jatigede reservoir. Secondary data was obtained from local regulation no. 2 in Sumedang District 2012

## RESULTS AND DISCUSSION

Implementation of local regulations on the management of the fisheries sector in Jatigede Reservoir was influenced by the spatial plan of the Jatigede Reservoir area itself. The spatial plan for the Jatigede Reservoir has several plans for regional spatial patterns, namely protected areas (border), fisheries areas, tourism areas, and district strategic areas (KSK).

### Implementation of Fisheries Areas

Locations found to have committed violations by establishing Floating Net Cages were in two locations, the first location was in the Cibogo Hamlet area, the second area was in Cipaku Hamlet. The number of Floating Net Cages built in Cibogo Hamlet, Leuwihideung Village, Darmaraja Subdistrict, Sumedang Regency at 108'24coordinates<sup>o</sup> 4"BT and 6° 54' 49" LS are 2 Floating Net Cages. Of the two floating net cages in the field one of the floating net cages is in the process of being assembled. When asked about licensing the construction of community floating net cages answered that they werethe indigenous people of Sumedang and had the right to build and carry out floating net cage cultivation activities.

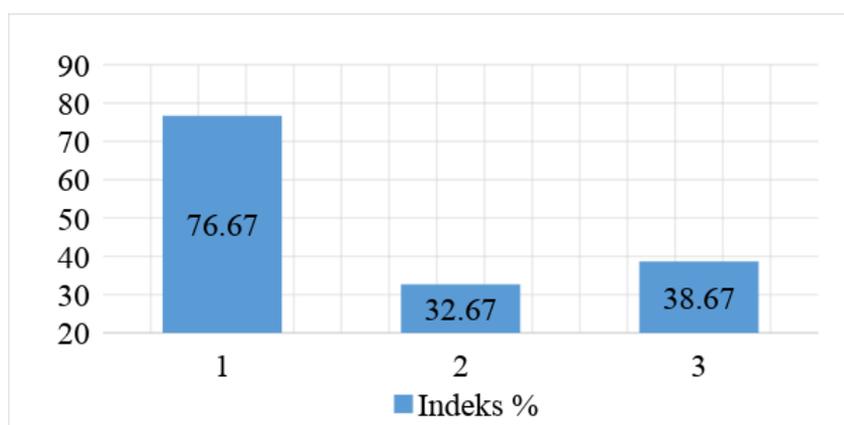


Figure 2. Graph of Implementation of RT / RW Area Fisheries Jatigede Reservoir

The second location in the Jatigede Reservoir which has a deviation from the existence of a regional regulation

prohibiting floating net cages is Cipaku Hamlet, Cipaku Village, Darmaraja Subdistrict, Sumedang District at

coordinates 108° 4 '32 "BT and 6° 54' 12" LS. The number of floating net cages in this area is 15 pieces. Ownership of floating net cages is from native people from Sumedang district, some of whom are affected by the flooding of the Jatigede Dam.



Figure 3. Floating net cages

Violations in the form of floating net cage cultivation in the jatigede reservoir

conducted by the community, can be assessed that the regulations made by the government still cannot be implemented properly by the community. The community has the idea that they are OTDs (Affected Persons) and also they are still indigenous people in the Sumedang area, so they have the right to establish Floating Net Cages around the Jatigede Reservoir. The community also actually knows about the policy of prohibiting floating net cage aquaculture, they also know that there are signs regarding the prohibition of conducting KJA aquaculture activities, but they ignore the ban.

Table 1. Regional Spatial Planning for Region Fisheries Jatigede Reservoir

Regional Spatial Pattern Plan for Area Fisheries Jatigede Reservoir								
No	Applicable Regional Regulations	Respondents (n = 30)					Likert Index	Description
		SB	B	C	KR	TB		
1.	Article 32 paragraph (4) Embodiment of fisheries area with: <ul style="list-style-type: none"> <li>Development of capture fisheries in reservoir</li> </ul>	6	1 3	1 1	-	-	76.67% (Good)	Fishing activities in the Jatigede Reservoir have been well developed. Some people who live around the Jatigede Reservoir, some of whom have jobs as fishermen
2.	Article 49 paragraph (8) General provisions for zoning regulations on fisheries areas, namely: <ul style="list-style-type: none"> <li>Prohibition of floating net activities in the Jatigede Reservoir water body.</li> </ul>	-	-	5	9	16	32.67% (Not Good)	Still there is a violation, the community still build and continuous production of floating cages in the water body Jatigede

3. Article 52 paragraph (4) the general provisions of zoning regulations for the development of hydropower Jatigede pay attention:

- Activities that are permissible for inland aquaculture activities provided that they do not damage the waters or turbines and other water bodies
- Prohibition of land aquaculture activities with floating nets

- - 7 14 9 38.67% (Poor)

One of the functions of the Jatigede Reservoir is generator hydropower (PLTA) but there are still violations by conducting floating net cages in the Jatigede Reservoir water body. The government has installed signs in the reservoir border area which contain restrictions on conducting cultivation with floating net cages.

Keterangan : SB

**Implementation of Protected Areas**

Installation of signs around the Jatigede Reservoir is one form of the government to disseminate to the surrounding community both the Jatigede Reservoir community and the people who visit the Jatigede Reservoir area. The signaling of the signs can be seen in Figure 2. In the signs, several activities are prohibited in the protected area (border) area of the reservoir. Prohibition is written in the beacon are:

1. Dilaranganya building Area area protected area (border) reservoir

2. banning activities of making and memasangan floating net (KJA)
3. Dilarangan activity of farming
4. Dilarangan sell
5. Dilarangan swimming and fishing in hazardous areas
6. is prohibited littering
7. Dilaranganya logging operations



Figure 5. signs Prohibition of activities in Jatigede

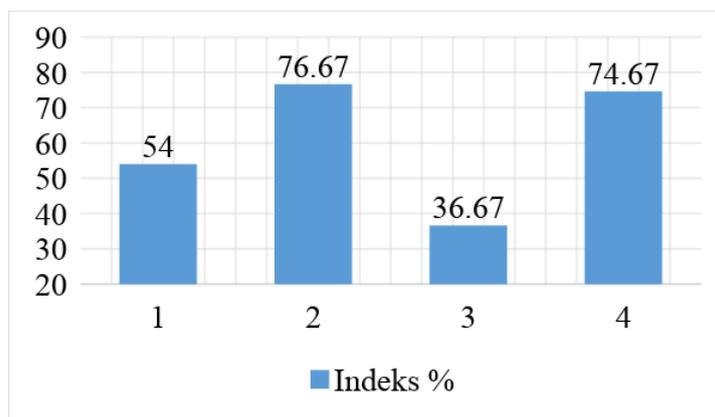


Figure 4. Graph Implementation of RT / RW Areas Protected Jatigede Reservoir

Table 2. Spatial Planning for Protected Areas in Jatigede Reservoir

Plans for Regional Spatial Patterns for Protected Areas Jatigede Reservoir								
No	Applicable Regional Regulations	Respondents (n = 30)					Likert Index	Description
		SS	S	C	KS	TS		
1.	Article 26 Paragraph (1) Explain that the area around the reservoir is one of the protected areas	-	5	1 2	12	1	54% (Enough)	Performed installation of signs in the lake border area, but there are still people who build buildings around the reservoir boundary
2.	Article 26 Paragraph (3) Explain the area protected area around the reservoir at least 50 (fifty) meters from the highest tide point to the land in the Jatigede Reservoir which inundated Jatigede, Wado, Jatinunggal, Darmaraja and Cisit Subdistricts of approximately 827 (eight hundred twenty seven) hectares	5	1 5	1 0	-	-	54% (Enough) The	government makes a map of RT rw which in it explains that the area within 50 meters of the highest tide point of the reservoir is a lindu area ng or border. Rt rw map can be found in annex
3.	Article 44 paragraph (1) The realization of priority protected areas referred to in the following activities: ● Installation of signs / warnings to areas	-	-	7	11	12	76, 67% (Good)	has been carried out Installation of signs and protection of reservoir borders. Installation of

<p>prone to disaster / disaster mitigation</p> <ul style="list-style-type: none"> <li>● Determination and border protection reservoir</li> <li>● water tourism development</li> </ul>		<p>signs can be seen in the picture, but early warning signs for disaster-prone areas have not been found.</p>												
<p>4. Article 48 (5) of the general provisions of zoning regulations established by considering the reservoir border:</p> <ul style="list-style-type: none"> <li>● Utilization of border space reservoirs for green open space</li> <li>● structure development of natural and artificial structures to prevent landslides / soil erosion and maintain water bodies form a reservoir / lake</li> <li>● border width determination of reservoir / lakes in accordance with the provisions of laws and regulations</li> <li>● Prohibiting the establishment of buildings in addition to the management of water bodies, water use and supporting recreational functions</li> <li>● Restricting the establishment of buildings, namely only for the management of</li> </ul>	<p style="text-align: center; font-size: 2em; opacity: 0.3;">GSJ</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding-right: 10px;">4</td> <td style="padding-right: 10px;">1</td> <td style="padding-right: 10px;">1</td> <td style="padding-right: 10px;">-</td> <td style="padding-right: 10px;">-</td> <td style="padding-right: 10px;">36.67%</td> </tr> <tr> <td></td> <td>4</td> <td>2</td> <td></td> <td></td> <td>(Poor)</td> </tr> </table>	4	1	1	-	-	36.67%		4	2			(Poor)	<p>This article has been well implemented by the government, but the surrounding community still has violations by establishing buildings other than for the management of water bodies. Buildings erected can be found in Appendix</p>
4	1	1	-	-	36.67%									
	4	2			(Poor)									

water bodies and  
 water utilization.

5. Article 49 Paragraph (3) The provisions of logging allowed distance is more than 500 meters from the edge of the reservoir	3	1 5	1 2	-	-	74.67% (Good)	None activities of logging within less than 500 meters from the edge of the Jatigede Reservoir
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Keterangan : SB

of Sumedang Regency at coordinates 108° 4 '14 "BT and 6° 52' 19" LS. The development of this tourist area is in accordance with regional regulation No. 2 of 2012 where the construction of tourist areas does not disturb the protected area (border) of the reservoir, which is not built in protected areas, and in its construction in accordance with the culture around the Jatigede Reservoir. Masyarakat who lives in the village "Buricak Burinong" is a community that was previously a victim of the flooding of the Jatigede Dam, but they used the money from the compensation of flooding by creating a new village. The development of the village "Buricak Burinong" was also assisted by the government

### Implementation of Tourism Areas

Implementation in the field the government has moved cultural heritage so that the cultural heritage is not lost. One of the cultural heritage that has been transferred by the government of Sumedang Regency is a cultural preserve called the Candoli Site located in Cisurat Village, Wado District, Sumedang Regency at coordinates 108 ° 5 '6 "BT and 6 ° 56' 28" LS. It can be concluded that the model that has been made does not experience correlation.



Figure 7. Candoli Site



Figure 8. Buricak Burinong Village

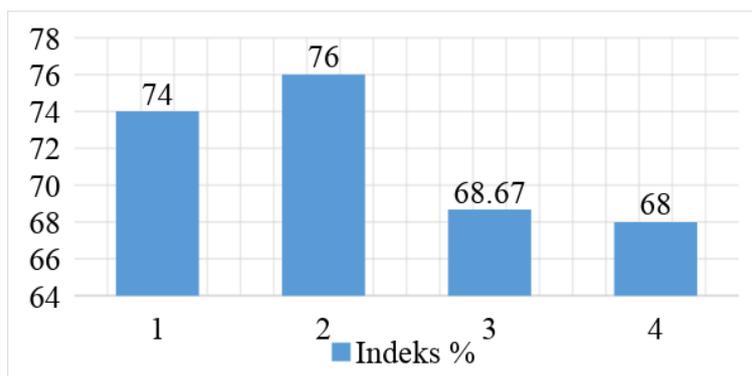


Figure 6. Graph of Implementation of RT / RW Areas Tourism Jatigede Reservoir

Table 3. Regional Spatial Planning for Areas Tourism Jatigede Reservoir

Regional Spatial Pattern Plan for Areas Tourism Jatigede Reservoir								
No	Applicable Regional Regulations	Respondents (n = 30)					Likert Index	Description
		SB	B	C	KB	TB		
1.	Article 35 Paragraph (2) It is explained that the submergence of submerged sites is carried out Jatigede Dam	3	1 5	1 2	-	-	74% (Good)	Site which was submerged by the Jatigede Reservoir has been relocated by the government
2.	Article 35 Paragraph (4) Explains that the Jatigede Reservoir is developed for artificial tourism activities	4	1 6	1 0	-	-	76% (Good)	Jatigede Reservoir began to be made as a tourist attraction by the

						community, one of which the construction of the village "Buricak Burinong" which is a village built by the OTD Jatigede Dam
3.	Article 44 paragraph (7) The realization of the tourism area is prioritized on activities:					The transfer of cultural preserve submerged by the Jatigede Reservoir has been carried out
	<ul style="list-style-type: none"> <li>● Transfer of cultural reserves to be flooded Jatigede Reservoir</li> </ul>	-	1 3	1 7	-	68.67% (Good)
4.	Article 49 paragraph (11) General provisions of zoning regulations on tourism areas pay attention to:					Tourist area located around the Jatigede Reservoir is built in accordance with zoning regulations which do not interfere with the function of protected areas and water catchment areas. The village "Buricak Burinong" is one of the tourist villages built around the Jatigede Dam. The village
	<ul style="list-style-type: none"> <li>● Prohibited activities and buildings that interfere with functions from the tourist area itself, except for the opportunity to relocate.</li> <li>● Activities and establishment of buildings around the Jatigede Reservoir are limited, only for the benefit of tourism activities in the Jatigede Reservoir Jatigede</li> <li>● Reservoir can be utilized by the natural and cultural potential of its community</li> <li>● Tourism activities carried out in Jatigede Reservoir</li> </ul>					68% (Good)

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do not disturb the function of protected areas

- Growth of tourism supporting facilities and infrastructures which is around the protected area of Jatigede Reservoir, especially in the area of water absorption
- Past cultural heritage sites and historical heritage around the Jatigede Reservoir are protected
- Do not change or damage the shape of local architecture, landscapes and visual views

was built by the OTD community from flooding the Jatigede Dam.

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Keterangan : SB

\*

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### District Strategic Area Implementation

Viewed from the viewpoint of economic interests, the Jatigede Reservoir is also a Strategic District (KSK) supervised area. According to Bappenas (2016) the strategic area of the regency area is a region whose spatial planning is prioritized, because it has a very important influence in the scope of the district on the economy, social, culture and environment. The District Strategic Area (KSK) has the following functions:

1. Develop, preserve, protect, and coordinate the integration of the

development of the region's strategic values in supporting urban spatial planning

2. As a space allocation for various socio-economic activities of the community and environmental conservation activities in the assessed regency has a very important influence on the relevant district area.
3. To accommodate regional spatial planning that cannot be accommodated in the structure plan and spatial pattern plan.

4. As a consideration in formulating the RT / RW indications of the main program of the district.

Table 4. District Strategic Area Spatial Planning (KSK) Jatigede Reservoir Sumedang Regency

Planned Spatial Pattern for District Strategic Areas (KSK) Jatigede Reservoir							
Regional Regulations that Apply	Reponden (n = 30)					Likert Index	Description
	SB	B	C	B	TB		
Jatigede Reservoir Area includes the district's strategic area is explained in article 39 paragraph (1) Jatigede Reservoir including the district strategic area from the point of interest of economic growth	5	1	1	-	-	76% (Good)	Jatigede Reservoir including the regency strategic area (KSK) because it is assessed that the Jatigede Reservoir can have very important influence in the scope of the district on the economy

C0 Keterangan : SB

Based on research conducted with the actors of floating net cage aquaculture in the Jatigede Reservoir it can be concluded that there is still no regulation regarding the spatial plan for the Jatigede Reservoir, implementation of Perda No. 2 of 2012 article 49 verse 8 concerning Fisheries in the Jatigede Reservoir area are still available budgeting is that by carrying out floating net cage cultivation activities that have actually been determined that the activity is prohibited, the community has the opinion that they have the right to carry out aquaculture activities using floating net cages, but have an average index value of 49.33% or have sufficient interpretation

value. The implementation of protected areas in the Jatigede Reservoir still has violations, namely by the existence of communities that build buildings around protected areas (borders) that have been banned in Perda No 2 of 2012 but have an average index value of 60.5% or have good interpretation values . The tourism area has an average index value of 71.67% or has a good interpretation value and the district strategic area (KSK) has an average index value of 76% or has a good interpretation value, no violations are made from the rules that are in Regulation No. 2 of 2012.

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