

Analysis Of The Impact Of Kkp Candy Number 56 Of 2016 On The Income Of Mangrove Crab Surabaya City

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Abstract: Fisheries is one sector that is important for the country's economy. Utilization of the fisheries sector must also have a sustainable use paradigm because if these resources are used without any limitations it will cause scarcity and even loss of the potential that exists and will have an impact on the decline in people's welfare, especially those directly dependent on the sector. The sustainable utilization paradigm has prompted the government to issue a policy of the Minister of Maritime Affairs and Fisheries No. 56 of 2016 which specifically regulates or limits the capture of crabs (*Scylla spp*).

This study aims to determine the impact on the income of crab fishing fishermen in Wonorejo Village, Surabaya City for the enactment of the Minister of Marine and Fisheries Regulation Number 56 of 2016 with the method used is qualitative-descriptive with the analysis of goal free Michael and Grindle. The research data obtained through interviews with the research subjects were fishermen caught mangrove crabs in the village of Wonorejo, Surabaya.

The results showed that the implementation of restrictions on crab fishing based on Permen KP / 56 of 2016 concerning Prohibition of Catching Lobster, Crab and Crab in Kelurahan Wonorejo Surabaya had little impact on the income of fishermen caught crabs because fishermen catching wonorejo crabs did not depend their income on spawning crabs that became objects restrictions. The main effect of financial income is precisely on the fluctuating level of market-controlled prices (supply-demand) especially the export market. The results also found that the Implementation of the Republic of Indonesia's Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 encouraged the Surabaya City government to promote capture pattern transfer, from catching to cultivation, but land factors became obstacles to the desire to change fishing patterns.

Keywords: Permen-KKP No. 56-2016, Mangrove Crab, Revenue, Grindlle
Research Location: Sub District Wonorejo, Surabaya City.

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I. BACKGROUND

Fisheries is one sector that is important for the country's economy because it is able to become one of the sectors that absorb labor and improve people's welfare through the economic potential contained in the fisheries sector.

However, this potential must be managed properly considering that fisheries resources are also limited, which means that the use of the fisheries sector must also have a sustainable utilization paradigm because if these resources are used without restrictions, it will cause scarcity and even loss of potential and will affect the welfare of the community. directly depends on the sector.

The sustainable utilization paradigm has prompted the government to issue policies or regulations related to fisheries to maintain the sustainability of national fisheries resources.

One of the policies or regulations is the Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 which specifically regulates or limits the capture of Crab (*Scylla spp*), Rajungan (*Portunus Pelagicus*), Lobster (*Panulirus spp*) in terms of weight and type and prohibits all types if it is laying except for a certain period (month). This regulation plays an important role in providing clear boundaries and aims at controlling the population and ensuring the sustainability of the supply of fisheries, crabs and crabs in the future.

Fisheries management regulations in principle can be approached from two sides, namely from the side of *input control* and *output control* (Widodo and Suadi, 2008). Regulation of *input control* relates to the regulation of the amount of *effort* issued in carrying out fishing activities such as limiting the number of fleets and the types of fishing gear used. *Control output* regulation relates to the limitation of the catch of each fisherman in terms of type, size, and the number of commodities caught fish that are allowed to be captured.

One of the areas affected by the regulation is Surabaya Wonorejo Village which has many fishermen who catch crabs as a source of their income. Located on the east coast of the city of Surabaya, the people of the

Wonorejo region who work as fishermen are not as many as other coastal areas in the city of Surabaya such as the District of Bulak and the Subdistrict of Kenjeran.

Tabel 1.1 Comparison of Number of Fishermen in Surabaya City

sub-district	Number of Fishermen	Catch type	
		Sea	Non-sea
Bulak	712	712	0
Asemrowo	351	350	1
Kenjeran	253	250	3
Benowo	163	55	108
Mulyorejo	189	150	39
Asemrowo	351	349	2
Rungkut	36	34	2
Gunung Anyar	11	10	1
Pakal	4	2	2

source : BPS Kota Surabaya, 2018

From these data it can be seen that there are two types of waters and catches, namely between marine waters and public waters. Marine waters when referring to BPS are marine waters while public waters are a combination of rivers and aquaculture ponds. From these data, it can be seen that Wonorejo Sub-District, which is included in Rungkut Subdistrict, is in the order of seven out of nine other coastal areas in Surabaya City.

Even though it is not the largest area related to the fishing industry, the commodity of Crab (*Scylla spp*) in the Wonorejo region is the main supplier considering that only Wonorejo Village has the largest area of Mangrove Forest in Surabaya City as a natural habitat for Crab (*Scylla spp*).

The existence of crabs (*Scylla spp*) greatly helps the fishermen's economy in Wonorejo Village, considering the need for crab commodities (*Scylla spp*) in Surabaya is very large as stated by DKPP in Surabaya at 33 kg / per capita per year (DKPP, 2017) which means that Wonorejo village fishermen can supply these needs and get economic benefits directly through the sale of Crab (*Scylla spp*) catches.

Minister of Maritime Affairs and Fisheries Regulation No. 56 of 2016 which limits the capture of crabs (*Scylla spp*) will affect the economy of the people of Wonorejo Subdistrict who depend on their income from fishing crabs (*Scylla spp*) because it will reduce their daily catches especially for Crab catches who are laying eggs.

Minister of Maritime Affairs and Fisheries Regulation Number 56 Year 2016 itself is an improvement on complaints of fishermen who feel hampered by their work activities due to the Minister of Maritime Affairs and Fisheries Regulation Number 1 Year 2015 which prohibits the total capture of crabs laying eggs and replacing them into fishing restrictions in certain periods as regulated in the Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016.

Changes to prohibition points into restrictions on the capture of crabs laying eggs in certain periods are expected to be a solution for the interests of both parties, namely the Government and Fishermen so that the sustainability of the Crab population is maintained while Fishermen's income does not decrease. The Surabaya City Government also made a policy breakthrough as an alternative limitation on the capture of Crab by providing land in Mangrove Ecotourism to be used as crab cultivation for Wonorejo Village Fishermen and at the same time expected to preserve mangrove forest in the area.

Based on the phenomenon in the background, the authors are interested in knowing the impact on fishermen's economy in Kelurahan Wonorejo after the enactment of Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016. The author proposed the research title "Economic Impact Analysis of KKP PERMEN Implementation NO. 56 of 2016 Against Fishermen Capturing Mangrove Crab in Kelurahan Wonorejo, Surabaya City

Formulation of the problem

From the description above, the authors propose the research problem formulation as follows:

1. What is the influence of the commodity Crab (*Scylla spp*) on the income of captured fishermen in Wonorejo Urban Village, Surabaya City?
2. What is the impact on the income of fishermen catching crabs in Wonorejo Village, Surabaya City for the enforcement of Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016?
3. What is the role of the government in minimizing the impact of the enforcement of Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 on the income of fishermen catching crabs in Wonorejo Urban Village, Surabaya City?

Research purposes

Based on the formulation of the problem above, the following objectives are expected to be achieved in the study:

1. Analyzing the influence of commodity crabs (*Scylla spp*) on the income of fishermen caught in Wonorejo Village, Surabaya City
2. Analyzing the impact of the enforcement of Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 on Capture Fishermen's income in Wonorejo Urban Village, Surabaya City?
3. Analyzing the role of the government in minimizing the impact of the enforcement of Minister of Maritime Affairs and Fisheries Regulation Number 56 of 2016 on Capture Fishermen's income in Wonorejo Urban Village, Surabaya City?

Benefits of research

The expected benefits obtained from the research are as follows.

1. Theoretical benefits

Theoretically, this research is expected to be able to provide a theoretical contribution to the scientific study of the Faculty of Social Sciences, and can provide a comprehensive explanation of the phenomena that exist with relevant theories. In addition, it is expected to be able to be the subject of study and reference, especially in the study of program implementation and public policy and its impact.

2. Practical Benefits

Practically, the results of this study are expected to be able to provide information to the parties concerned and have an interest regarding the impact of the implementation of KKP Ministerial Regulation No.56 of 2016 on the economy of fishermen .

Previous research

Several studies related to the impact of a policy on the fisheries sector have been carried out by several experts. Here are some previous studies related to research conducted by the author.

1. Nao Takashina (2018): Effects of Marine Protected Areas on Overfished Fishing Stocks with Multiple Stable States

The purpose of this study is to prove the important role of limiting the territorial waters from overfishing behavior so that fisheries resources can continue to be sustainable and can enrich and strengthen the marine ecology. The results of the study show that protection of the sea area can maintain excessive coverage and maintain a very significant marine ecology. Although the pattern of migration of marine life is also a factor that also has an influence on the availability of the biota itself. The limitation of the sea area from exploration can also improve the *recovery* of biota and marine ecology which has decreased the level of resilience.

2. Pierre Failler (2014): On- macro economic impact of fishing effort regulation: measuring bottom-up fish harvesters' economy-wide contribution

This study emphasizes the regulation of fish farming as an alternative fishing solution so that the sustainability of future resources is maintained while maintaining the income of traditional fishermen. The study also aims to bridge the gap between fisheries microeconomic regulation and its macroeconomic impact, outline sectoral relationships between the fisheries and non-fisheries sectors and the fish chain from the marketing and marketing era. The results of the study show empirical findings with the object of Thai transport services, namely the four-fold multiplier effect of fish processing compared to traditional capture fisheries. However, the findings also reveal that capture fisheries make a far greater contribution to the economy than previously thought.

Theoretical basis

Public policy

Public policy is a policy taken by the government related to the social life of the community with the aim that people's lives can run well. Leo Agustino (2008: 7) defines policy as

"A series of actions / activities proposed by a person, group or government in a particular environment where there are obstacles (difficulties) and opportunities for implementing the proposed policy in order to achieve certain goals".

This opinion also shows that the idea of policy involves behavior that has a purpose and purpose is an important part of the definition of policy, because after all the policy must show what is actually done rather than what is proposed in some activities on a problem .

Regarding public policy, Budi Winarno (2002: 17) defines it as

"Hypotheses that contain initial conditions and consequences that can be predicted. Public policy must be distinguished from other forms of policy such as private policy. This is influenced by the involvement of non-governmental factors ".

Whereas Robert Eyestone as quoted by Leo Agustino (2008: 6) defines public policy as: "*Relations between government units and their environment*".

Stages of Public Policy

The process of public policy making is a complex process because it involves many processes and variables that must be studied. Therefore some political experts who have an interest in reviewing public policy divide the processes of drafting public policy into several stages. The purpose of this division is to facilitate us in reviewing public policy. However, some experts may divide these stages in different order. The stages of public policy according to Anderson quoted by Budi Winarno (2007: 32-34) are as follows:

- a. Agenda Preparation Stage
- b. Formulation Stage
- c. Stage of Policy Adoption
- d. Implementation phase
- e. Evaluation Phase

Factors Affecting Public Policy

The publication of a policy is a series of phenomena that do not stand alone but are an accumulation of factors that become the initial *input* to the policy itself. According to Suharno (2010: 52) the policy making process is a complex and complex work and not as easy as one might imagine. Nevertheless, the administrators of an institutional organization or institution are required to have responsibility and willingness, as well as abilities or expertise, so that they can make policies with the expected risks (intended risks) and those that are not expected (unintended risks). Policy making is influenced by several factors. The key thing that is also being watched out and can be anticipated further is that in making policy there are often common mistakes.

Implementation of Public Policy

Policy implementation is an activity that is seen after the legitimate direction of a policy is issued which includes efforts to manage inputs to produce output or outcomes for the community. The policy implementation phase can be characterized and distinguished from the policy making stage. Policy making on the one hand is a process that has an upward flow , in the sense that the policy process begins with the delivery of aspirations, requests or support from the community. While the implementation of policies on the other hand in it has a flow of declines in abstract policy alternatives into concrete actions.

1. Merille S Grindle Theory: The success of implementation according to Merilee S. Grindle (in Subarsono, 2011: 93) is influenced by two major variables, namely the policy content (content of policy) and the implementation environment (context of implementation).

2. Donald S Van Metter's Theory: According to Meter and Horn (in Subarsono, 2011: 99) there are five variables that influence implementation performance, namely policy standards and objectives, resources, communication between organizations and strengthening activities, characteristics of implementing agents and social, economic and political conditions .

From some of the above theories there are similarities namely implementation is as an effort to create a relationship that allows for policy to be realized as a result of government activities.

□ KKP PERMEN Policy No. 56 of 2016

KKP Minister Regulation No. 56 of 2016 is a revised policy on KKP Ministerial Regulation No. 1 of 2015. The revised policy on Minister of Maritime Affairs Regulation No. 1 of 2015 is a form of government concern regarding public complaints, especially fishermen who object to the prohibition of arresting certain types of fisheries commodities. only the crab (*Scylla sp*) is laying eggs. The prohibition will reduce fishermen's income and will disrupt fishermen's life in terms of fulfilling their daily needs which will also have an impact on the social life of the fishing community in general.

Both KKP Ministerial Regulation No. 56 of 2016 and KKP Ministerial Regulation No. 1 of 2015 are the government's response to large-scale exploitation of fishery commodities as stipulated in the PERMEN especially those that are laying eggs so that sustainability of fisheries resources will be disrupted and even fear of loss of resources because there is no breeding process in these commodities.

□ Impact of Public Policy

The impact of policy is the overall effect caused by a policy in real life conditions . Semua shape policy benefits and costs, both direct and future, must be measured in the form of efeksimbolis or real effects caused. Policy effects are various things that are done by the government.

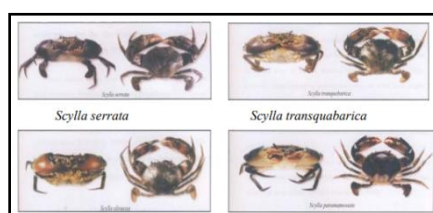
Soemarwoto in Giroth (2004) states:

"Impact is a change that occurs as a result of an activity. These activities can be natural, in the form of chemistry, physical or biological, can also be done by humans in the form of environmental impact analysis, development and planning. while the impact can be biophysical, social, economic and cultural. "

□ **Mangrove Crab (*Scylla sp*)**

Crab is included in carnivorous animals and one of the hard-skinned animal species that is widely consumed in various countries. Fresh crabs are generally processed into *seafood* with a variety of flavors in restaurants.

Mangrove crabs (*Scylla sp*) can be divided into four, namely, namely : *Scylla serrata* , *Scylla transquabarica* , *Scylla paramamosin* , and *Scylla olivacea* . Mulya (2000 : 20) states that the four types of genus *Scylla* can be distinguished by color as one of the main distinguishing factors. Morphological differences to distinguish the four types of the *Scylla* genus can also be seen by the H shape of the carapace, the form of thorns on the forehead of the carapace, the form of thorns on the fingerjoint and the hair shape (setae). Mangrove crabs *S. oceanica* and *S. transquabarica* have a greenish or grayish green base color or also called olive green, while *S. serrata* and *S. serrata* var. *paramamosin* has a brownish red or brownish brown base color (Mulya , 2000 : 22).



Gambar 2.8 Jenis-jenis Kepiting Bakau (*Scylla sp*)

Fisherman

Fishermen are people who actively engage in fishing activities, both directly (such as net spreaders and users), or indirectly (such as sailboat helmsmen, motorized fishing boat masters, ship engineers, cooks of fishing vessels), as livelihood . In Indonesia, fishermen usually live in coastal areas or on the coast of the sea. The fishing community is a group of people who live in the sea and live in coastal or coastal villages.

Fishermen or fishermen groups in accordance with Law No. 45 of 2009 concerning Amendments to Law Number.31 of 2004 concerning Divided Fisheries being:

1. Fishermen are people whose livelihoods are fishing
2. Small fishermen are people who make fishing to fulfill their daily needs using fishing boats with a maximum of 5 tons .

The laws also included fishermen based on facilities used when searching for fisheries commodities, namely:

1. Boat fishermen / boats are fishermen whose fishing operations use floating vessels / boats.
2. Rakit fishermen are fishermen whose fishing operations use floating rafts.
3. Fishermen without floating facilities are fishermen whose fishing operations do not use floating facilities.

From the building of social structures, the fishing community consists of heterogeneous and homogeneous communities. Sastrawidjaya (2002) states

"The society is heterogeneous those who live in an area easily accessible by land, while the homogeneous community located in remote fishing areas normally used these simple fishing gear, so little productivity. Meanwhile the difficulty of transporting results to the market will also be the cause of the low prices of seafood in their area. "

From these understandings it can be concluded that fishermen are someone who has a livelihood through fishing activities both alone and in groups with activities including fishing fisheries commodities and indirectly assisting in the capture of fisheries commodities.

□ **Fishermen's Income**

Revenue is the result of someone who engages in economic activities. For fishermen, registration is the result of activities related to fisheries. Sitorus (2000) states

"Revenue is the amount of utility that can be generated through business. In essence the amount of money received by a producer (fisherman / fish farmer) for the product he sells depends on the amount of money that must be spent by the consumer, the amount of product marketed and the costs of moving the product to the market. "

• **Research Concept Framework**

KKP Minister Regulation No. 56. 2016 is a form of government attention to the sustainability and sustainability of coastal and marine biohayati from damage and extinction. Regulations limiting and even banning the capture of several types of biota, one of which is mangrove crabs, will affect the pattern (method and period) and the number of catches of mangrove crabs, especially for the Wonorejo urban fishermen, who have been relying on fishing for crabs. Changes in the pattern and number of catches will also have an impact on the economy of the fishermen catching the crabs, considering that so far the fishermen have never been restricted or even banned from carrying out fishing activities for crabs . These impacts can be positive in the sense of strengthening the economy of the fishermen or otherwise will weaken their economy. As stated by Soemarwoto in Giroth (2004) that impact is a change that occurs as a result of an activity. The conceptual framework in this study was developed from the merging of Michael Scriven's goal free model in Widya (2017) and the Grindle model with the aim of being able to describe the flow of policy, implementation and its impact on the fishermen caught in the Wonorejo area of Surabaya. the following conceptual framework in the research conducted :

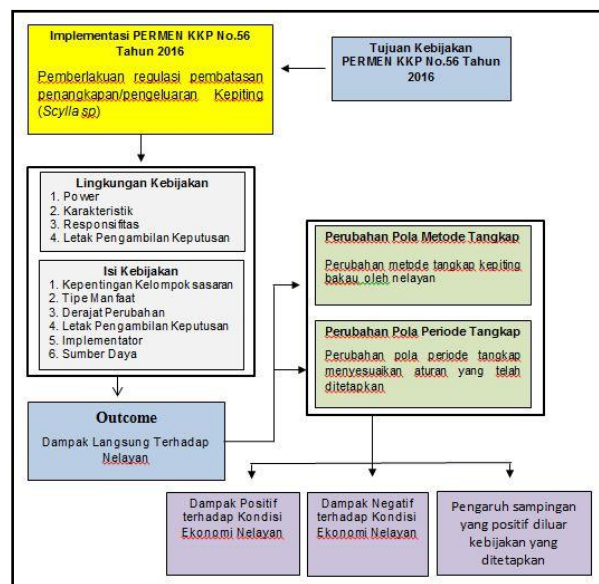


Figure 2.10 Research Conceptual Framework

Research conducted by the author is an analysis of the issuance of the Minister of Maritime Affairs and Fisheries Regulation No. 56 of 2016 which provides restrictions on the capture and expenditure of commodity crabs both in size and catch period. The implementation of policies as in the Grindell model consists of the contents of the policy and the policy environment which will later bring about an impact. Based on the regulation, fishermen will change the pattern of catching crabs from both the method and the catch period in response to the regulation. The policy issued by the Ministry of Maritime Affairs and Fisheries will have a positive impact in the form of income increases or maybe the opposite appears negative impacts such as decreasing income and positive side effects on the fishermen themselves such as alternative solutions from the government and so on.

Research methods

- **Types of research.**

the purpose of the study, the type of research used is descriptive research. Type of descriptive research according to Sumadi (2006: 76) is research that intends to make an explanation of situations or events.

- **Research focus.**

Focus this research is the impact of the implementation of KKP No.56 of 2016 PERMEN on fishermen's economy which includes:

1. Fishermen's income before the KKP No.56 Year 2016 PERMEN
2. Fishermen's income after the KKP No.56 Year 2016 PERMEN
3. Response and alternative offer of Surabaya City government policy on the issuance of KKP No.56 of 2016 PERMEN

- **Research Locus.**

This research is located in Wonorejo Sub-District, Rungkut Sub-District, Surabaya City with the following boundaries:

- a. In the North it borders Sukolilo District
- b. On the east it borders the Madura Strait.
- c. In the south it is bordered by Gunung Anyar District .
- d. On the west it borders on Wonokromo District

As an area located on the east coast of Wonorejo Village, which has a vast area of mangrove forests and the sea, this makes it one of the considerable economic potentials for improving community welfare.

- **Data collection technique.**

The types of data to be collected in this study are divided into two types of data, namely:

- a. Primary Data .
- b. Secondary Data

- **Informant Determination Method**

Informants in this study were:

1. Head of the Surabaya City Marine, Fisheries and Livestock Service Office or an official appointed as the person in charge of implementing the CTF PERMEN .
2. Chairperson or Management Community of Fishermen in Kelurahan Wonorejo, Surabaya City
3. Fishermen of Wonorejo Village, Surabaya City

- **Data Analysis Techniques.**

Data analysis techniques according to Sugiyono (2010):

- a. Data condensation
- b. Presentation data
- c. Verification or withdrawal conclusion

- **Overview of Research Objects**

- **Fishermen Arrest Wonorejo Mangrove Crab**

Fishermen of mangrove crabs in Wonorejo village are fishermen who rely on the catch of mangrove crabs in the Wonorejo mangrove forest area and do not carry out fishing activities other than mangrove crabs except during the low tide period.

The fishermen catching mangrove crabs in the Wonorejo region are members of the Wonorejo fishermen group, which consists of several sub groups such as fishermen, fishermen, freshwater fish breeders and fishermen catching mangrove crabs themselves. This fishing group is a place for fishermen to share information regarding activities, regulations and knowledge related to their work as fishermen.

Table 4.2 Wonorejo Mangrove Crab Fishermen

Year	Total
2018	10
2017	15
2016	15
2015	20

Source : Interview with the Chair of the Fisherman Group

At this time the number of fishermen catching mangrove crabs in the area of Wonorejo is 10 people. This number is reduced compared to the previous year which was recorded at 15 people. The reduced number of fishermen is due to the fishermen choosing to work outside the activities of fishermen such as factory workers and construction workers. This was stated by the head of the fishing group Mr. Rusli Yusuf:

"Fishermen who catch crabs have indeed been reduced, from 15 people now only 10 people mas. There are those who are accepted at the factory and there are also construction workers. The work of the fisherman is heavy and the results are not necessarily different from the others. "(Interview)

The opinion of the head of the fishermen group was in accordance with the information obtained by the author of Mr. Supri, one of the wonorejo mangrove crab fishermen caught as follows:

"My son wanted to join in crabbing the crab but he was banned, so he could pick up the kia liane, it was hard to find the crabs especially at night, the results were also uncertain." (Interview)

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Pattern of Catching Mangrove Crab Crab Wonorejo Fishermen

In contrast to marine fishing fishermen, fishermen catching mangrove crabs have different patterns and times related to fishing activities. If the fishermen in Wonorejo generally will do their activities in the early hours of the morning and return in the morning or afternoon, crab fishermen carry out fishing activities for crabs in the morning, afternoon or evening because they are very dependent on the tidal conditions that will affect the crab's own activities. .

Catchers of Mangrove Crab in Wonorejo Fishermen

There are several tools used by fishermen to catch crabs such as fishing rods, nets and crab traps. Fishermen catching mangrove crabs in the Wonorejo region use a crab trap called Badongan. Crab traps or badongan are traps made of iron frames and nets with small iron places to place bait for small fish to attract the attention of crabs and eventually trapped inside.



Figure 4.1 Badong (Crab Trap)

Technically, the badongan will be placed between the mangrove trees which are believed to be the place for mangrove crabs to find food. This placement of badongan between mangrove trees is strongly influenced by the mangrove water discharge. If the low tide will be placed and at the time of high tide the fisherman will check the results of the badongan.

Water tides in the area of Wonorejo can occur in the morning, afternoon or evening. But in one month there are 4-5 days where the water discharge actually recedes where the level of tide that occurs in this period remains too little and the badung will not be effective because in that period the crabs do not go foraging and are more often in hiding holes and in the area which still has water. The area is considered to be too deep into the mangrove forest, making it difficult for fishermen to put up food. It was during this period that several fishermen caught crabs changed jobs as mentioned in table 4.2 above.

Income of Fishermen Capturing Wonorejo Mangrove Crab

The income of fishermen catching mangrove crabs in the area of Wonorejo is divided into two, namely the main income and side income both temporarily related to the period of tidal water and non-temporary side income such as owning a small business and others. In this study, the authors only focus on the main income of fishermen, which is related to income based on the sale of mangrove crabs obtained from the activity of catching mangrove crabs.

Crab Capture Results

The catch of mangrove crabs catching crab fishermen in Wonorejo is the result of the installation of a number of 10-30 badongan per day and the results are seen as soon as 15 hours after installation. But all depends on the condition of the water discharge and the fishermen's estimation on the results of badongan. The following are the details of the fishermen's catches in the units of the day that the researcher obtained through the information of the fishermen.

4.4 Hasil Tangkap Kepiting Harian Nelayan 4.4 Daily Crab Catch of Fishermen Catching Wonorejo Crab

Season	Total Badongan	Results
Rain	25-30 Badongan	4-5 Kilos / Day
Dry	10-25 Badongan	> 3 Kilos / Day

Source: Interview

From the tabel it is known that the season period will affect the number of badongan and the catches of fishermen. In the dry season which is believed to be more difficult to get crabs, fishermen put up between 10-25 badung for the purpose of energy efficiency and cost.

The purpose of energy efficiency in this case is to check the condition of the feed and the results, the fishermen must carry out activities along the mangrove forest both walking and using a boat as far as 2-4 kilometers depending on the distribution of the badongan itself. Whereas the cost in question is related to crab bait in the form of small fish bought by fishermen catching crabs on fish fishermen. With estimates of catches and records of catches in the previous dry season, fishermen tend to reduce the number of animals and as expected the catch in this period averages under 3 kilos per day.

This pattern is different during the rainy season where the number of crabs is so high that the possibility of crabs being entered by crabs is very high, fishermen put more than in the dry season and the results in the rainy season catch an average of 4-5 kilos / day. As stated by Mr. Muji:

"This rainy season is delicious, lots of crabs in the mangrove forest, kulo wani pairs of frogs, up to 30 kulo wani animals. Grandmother when dry, mboten wani mas, it doesn't work because it's a hasile feed or not, it's hard to get 2 kilos it is happy, usually mboten sampek ". (Interview)

This is corroborated by the statement of collectors or buyers of catches of fishermen's crabs, Mr. Rudi:

"Many of the crabs have been deposited in the rainy season. One fisherman can 4-5 kilos sometimes there is more. It's only 4-5 kilos often. " (Interview)

Conversion of Catching Crab in Fishermen's Income

Based on the catch of crabs which are calculated in units of kilograms, the conversion follows in the daily income of fishermen.

4.5 Conversion of Catches in Fishermen's Income

Quality	Size	Price
Super & lay eggs	> 2.2 Ounces and eggs	200 thousand / kg
Super	> 2.2 Ounces	150 thousand / kg
Ordinary	> 2.2 Ounces	60 thousand / kg

Source: Interview processed

From the conversion table above, it can be seen that the income of fishermen cannot be ascertained because the value depends on the catch and the quality of the catch of the mud crab itself. If the catch as stated in table 4.3 above is assumed only ordinary quality crabs are:

1. During the dry season, the average income of mangrove crab fishermen is $2 \text{ kg} \times 60,000 = 120,000 / \text{day}$. If this value is converted in months, it must be reduced by a period of low tide 4-7 days in a month where fishermen do not carry out fishing activities. So that the total income is $120.00 \times (30 \text{ days} - 7 \text{ days}) = 2,700,000$
2. During the rainy season, the average income of mangrove crab fishermen is $4 \text{ kg} \times 60,000 = 260,000 / \text{day}$.

If this value is converted in months, then the period must be reduced by 4-5 days in a month where the fishermen do not carry out fishing activities. So that the total income is $260,000 \times (30 \text{ days} - 7 \text{ days}) = 5,980,000 / \text{month}$

But in fact the monthly income of fishermen remains uncertain and is very dependent on the catch as stated by the following Mr. Kusdi:

"I wonder if the culinary lease is selling 2,500,000 saget crabs, bro, when I get a fortune, I have already reached 4 million mas. Depends on super nopo mboten mas. Niku is cut down by bait, badongan kale lian-liane niku ". (Interview)

Whereas Mr. Mursalim stated:

"Chances are maybe 2 millions, except for super ones and laying eggs up to 5 million or even 6 million, just having a hard time getting it, mas." (Interview)

As stated above, the catch is gross income because it has not reduced the costs of fishing activities such as diesel fuel, bait and purchase / maintenance of fishing gear (badongan). From the income simulation, it can be seen that the catch results with super quality, especially laying eggs, will have a large influence on conversion, which means that it can significantly increase the income of fishermen because of the very high selling value.

Based on some fishermen's statements, getting super crabs to lay eggs is not easy. In one month, you can't get more than 1 kilogram. Here are some statements from fishermen related to their efforts to get super crabs and lay eggs:

"It's hard to get laying crabs, chancy. Super crabs are still frequent ". (Mr. Antok)

This was confirmed by Mr Yadi's statement, which also provided more detailed information as follows:

"Sometimes the bait has the effect of mas, if the fish are too small the super crabs rarely want to enter the banana, so if I have to try to give the bait rather big, but if there is an egg, I don't want to enter a trap. Sometimes 1 month can only get 1 mas. "

Data analysis

Data analysis in this study was developed from the incorporation of Michael Scriven's goal free model and Grindle model with the aim of being able to describe the flow of policy, implementation and its impact on the income of the fishermen catching crabs in the Wonorejo area of Surabaya City.

II. DISCUSSION

The sea is a resource that has high economic value and is strategic in improving the welfare of the Indonesian people. Fisheries can support the economy of the community through marine resources that are very large and owned by this nation. The strategic meaning is reflected in the objective conditions of the Indonesian region which is approximately 7.8 million km², consisting of 74.3 percent of the sea and 25.7 percent of the land. The sea waters are 5.8 million km² of archipelagic waters, and 2.7 million km² of exclusive economic zones (EEZ). Based on the constitutional mandate, all fisheries natural resources must be managed in such a way that they can improve people's welfare, and at the same time, their sustainability must also be maintained. In the provisions of the 1945 Constitution of the Republic of Indonesia Article 33 Paragraph (3) is stated

"Earth and water and all natural resources contained therein are controlled by the state and used for the greatest prosperity of the people".

The scope of state control over the earth, water, and natural resources contained in it is also contained in Article 2 paragraph (1) of the LoGA

"On the basis of the provisions in article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia and the matters referred to in article 1, the earth, water and space include natural resources contained therein at the highest level controlled by the State as people's power "

Fisheries resources are a type of renewable resources, but these fish resources have certain limits in accordance with their carrying capacity. Therefore, if the utilization is carried out in contravention of management conditions, it will result in extinction. However, abundant natural resources if exploited without limits and without a good management system, can cause a variety of problems, especially those related to the sustainability of natural resources and the balance of the ecosystem, such as the destruction of certain species, which can lead to reduced or even depleted marine resources.

Therefore, a management system through adequate regulation is absolutely necessary, given the large number of resources that must be cultivated as well as possible. Fish resources are very sensitive to the surrounding natural environment, if over exploited (*over exploitation*) exceeds the allowable catch (*maximum sustainable yield*) or if the resource cannot be exploited at all, this will have a biological impact on the existence of these fish resources.

Likewise with the management of one marine resource, namely, crabs. So in order to implement the provisions of Article 7 Paragraph (1) letter q and letter t of Law Number 31 of 2004 as amended by Act Number 45 of 2009 concerning Fisheries which states that the Minister of Marine Affairs can determine: the size or minimum weight of fish species which may be caught and the types of fish that are prohibited from being traded, included, and issued to and from the territory of the Republic of Indonesia.

In addition, as an effort to maintain the existence and availability of crab resource populations (*Scylla* spp.), The Republic of Indonesia Minister of Marine and Fisheries Regulation Number 56 / Permen-Kp / 2016 was issued concerning Prohibition of Catching and / or Expending Lobster (*Panulirus* Spp.), Crab (*Scylla* Spp.), Dan Rajungan (*Portunus* Spp.) From the Territory of the Republic of Indonesia. Prohibition of Catching Lobster (*Panulirus* Spp.), Crab (*Scylla* Spp.), And Rajungan (*Portunus* Spp.) Has been clearly stated in several Articles in the Regulation of the Minister of Marine and Fisheries of the Republic of Indonesia Number 56 / Permen-Kp / 2016.

Issuance of Minister of Maritime Affairs and Fisheries Regulation Number 56 / PERMEN-KP / 2016 concerning Prohibition of Catching and / or Expending Lobster (*Panulirus* spp.), Crab (*Scylla* spp.), And Rajungan ((*Portunus* spp.) From the Territory of the Republic of Indonesia, actually due to the existence and availability of Lobster, Crab and Crab have experienced a decline in population which is also embodied in the consideration of Regulation of the Minister of Marine and Fisheries Number 56 / PERMEN-KP / 2016 so that it is necessary to limit the arrest of the three species.

However, this policy is not in an empty space in the sense that there will be an impact on the fishermen who are the main group of users of marine resources. This impact can cover various aspects of one of the income of crab-catching fishermen where with the prohibition and limitation of catching the commodities of

laying crabs, fishermen will reduce their income considering the economic value of crab eggs is very high compared to super and ordinary crabs.

At present the economic value of crab eggs is 200 thousand / kg while super crabs are 150 thousand / kg and ordinary crabs are only 60 thousand / kg. This very significant difference in value was felt by the fishermen and then asked the government to review the total prohibition policy of crab farmers as stipulated in the Minister of Maritime Affairs and Fisheries Regulation Number 01 / PERMEN-KP / 2015 and then produce a revised regulation namely the Minister of Maritime Affairs and Fisheries Regulation Number 56 / PERMEN-KP / 2016 with prohibition changes being prohibited and restricted for a certain period.

Fishermen catching crabs in the village of Wonorejo is one of the groups of fishermen who get information related to the Minister of Maritime Affairs and Fisheries Regulation Number 56 / PERMEN-KP / 2016. Through the kelurahan, the Surabaya DKPP office cooperating with wonorejo fishermen groups, fishermen received socialization on the issuance of the Minister of Maritime Affairs and Fisheries Regulation Number 56 / PERMEN-KP / 2016 as a revision of the Minister of Maritime Affairs and Fisheries Regulation Number 01 / PERMEN-KP / 2015.

Wonorejo village fishermen have been using badongan, which is a type of trash made of iron frame and nets as well as bait collectors without having a cultivation pattern in selling crabs so they can be expected to experience the impact of reducing their income. catch pattern transfer program and ready to assist fishermen in the process.

However, fishermen catching the Wonorejo urban village crabs were unable to carry out the fishing pattern transfer, with several considerations being land. The Wonorejo coastal area is currently developing and becoming a new residential area which makes the price of land in the area quite high and unaffordable for fishermen catching crabs. While the mangrove forest area is a conservation area that should not be converted into crab ponds so that fishermen catching crabs in the Wonorejo area continue to use existing fishing methods / patterns that are using badongan.

There are a number of techniques carried out by fishermen in an effort to get crabs to lay eggs, one of which is to put the bananas rather into the mangrove forest, but this also cannot be sure that they actually make the buns filled with laying crabs while the technique is more difficult and time consuming and more power than putting a lump in the mangrove river. The luck factor is also believed to be the main reason related to the catch of crabs. This is what makes crab fishermen not too specialized in trying to find and catch mangrove crabs that lay eggs. Fishermen are more focused on getting large quantities of mangrove crabs of any kind; lay eggs, super or ordinary.

The thing that greatly affects the income of fishermen is precisely the price level that can go up and down and beyond the ability of fishermen. This means that the buyer or *buyer* who has a decision to raise prices or otherwise reduce prices by causes that were never understood by fishermen. Fishermen can only accept the price given by the buyer in this case conveyed by collectors who are also residents of the Wonorejo village and at the same time determine the number of crabs, the types of crabs and the total sales of crabs paid by fishermen to the collectors.

However, fishermen also have general knowledge regarding the rise and fall of crab prices. In one year period, December to February which is the range of months to *Chinese New Year* or *Chinese* holidays the demand for crabs is very high, especially for export needs. This makes the price of crabs continue to rise and fall back after the *Chinese New Year* period is over. This period of price is used by fishermen to increase crab fishing activities over other periods of activity. Fishermen will put more food than the previous period, check the condition of bats and baits more often than usual and ultimately expect increases in catches that will affect their level of income.

The period also coincides with the period permitted by the Minister of Maritime Affairs and Fisheries Regulation Number 56 / PERMEN-KP / 2016 to catch mangrove crabs laying eggs so that if fishermen get spawning crabs it will be an additional income for them. During this period it was also in conjunction with the rainy season where it was believed that mangrove crabs would often come out of their nests to look for more abundant food than the period outside that which had entered the dry season. This is an advantage in itself and is believed to be one of the considerations. The Minister of Maritime Affairs gives permission to arrest because with the rainy season the crabs will breed faster so that fishing activities in the December to February period will not interfere with the availability and sustainability of the crab commodity itself.

From the research findings, it can be seen that the Minister of Maritime Affairs and Fisheries Regulation No. 56 / PERMEN-KP / 2016 has no significant effect on the income of fishermen catching crabs considering that fishermen themselves are not so focused on finding mangrove crabs laying eggs because they have a higher level of difficulty and they believe in luck. Fishermen are more affected by their income on the price of crabs which can rise and fall beyond the ability and knowledge of the fishermen themselves. However, fishermen already know the trend of increasing and decreasing the price of crabs and have a good strategy in responding to these price trends so that they do not harm them.

With these findings, the issuance of Minister of Maritime Affairs and Fisheries Regulation No. 56 / PERMEN-KP / 2016 is quite appropriate in the context or paradigm of sustainable use of marine resources but still provides space for wonorejo regional crab fishermen to obtain economic value for their lives.

III. CONCLUSION

Based on the results of the study found the following conclusions:

1. Implementation of restrictions on crab fishing based on Permen KP / 56 of 2016 concerning Prohibition of Catching Lobster, Crab and Crab in Kelurahan Wonorejo Surabaya has little impact on the income of crab-caught fishermen because fishermen catching wonorejo crabs do not depend on income for laying crabs which are subject to restrictions.
2. Implementation of the Republic of Indonesia's Minister of Maritime Affairs and Fisheries Regulation Number 56 Year 2016 encourages the Surabaya City government to promote capture pattern transfer, namely from capturing to cultivation, but land factors become obstacles to the desire to change fishing patterns.

IV. SUGGESTION

Based on the conclusions obtained following the suggestions from the author:

1. The existence of a pedestrian program for crab fishermen is related to the right technique in trying to catch crabs in order to be able to specifically get super-type crabs.
2. Crab cultivation is the best solution for the business of sustainable use of commodities related to crabs and the government can solve the problem of providing land which is the main obstacle in its implementation.
3. The government, especially the marine service in the city of Surabaya, can help fishermen to control the price level with the existence of a new export market so that it does not only depend on one exporter.
4. For fishermen, it can be considered to put bandongan on the coastal coast so that it is not too dependent on the tides of the river and mangrove forests so that the fishermen's income can be maintained properly.

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