Legal analysis of lobster export policies in Indonesia: The principle of sustainable development approach

Maskuni, Aminuddin Ilmar2, Marthen Napang1, Naswar2, Achmad3 and Hasbi Assidiq4

1International Law Department, Faculty of Law, Universitas Hasanuddin, Makassar, South Sulawesi Indonesia
2Constitutional Law Department, Faculty of Law, Universitas Hasanuddin, Makassar, South Sulawesi, Indonesia
3Civil Law Department, Faculty of Law, Universitas Hasanuddin, Makassar, South Sulawesi, Indonesia
4Assistant Researcher, Faculty of Law, Universitas Hasanuddin, Makassar, South Sulawesi 90245 Indonesia

Email: assidiqhasbi97@gmail.com

Abstract. Lobster as one of the highly valued export commodities in the fishery sector. World demand is quite high, and limited supply results in high selling value of this commodity. Uncontrolled catching, making the population of lobsters was threatened. In 2015, the government issued a Regulation of the Minister of Maritime and Fisheries Affairs of the Republic of Indonesia Number 1 / Permen-Kp / 2015 Concerning the Capture of Lobster (Panulirus Spp.), Crab (Scylla Spp.), And Crab (Portunus pelagicus Spp.) that regulates related to restrictions in lobster management, which was only lobsters of a certain size can be caught. This policy was revised in 2016 with the Regulation of the Minister of Maritime and Fisheries Affairs of the Republic of Indonesia Number 56 / Permen-Kp / 2016 Concerning the Prohibition of Catching and/or Expending Lobster (Panulirus Spp.), Crabs (Scylla Spp.), And Swimming (Portunus Spp.) from the territory of the Republic of Indonesia. This policy expressly states the prohibition of catching lobsters that are in egg-laying conditions and lobsters weighing less than 200 grams or categorized as baby lobsters. This policy aims to maintain the existence and availability of increasingly threatened lobster resource populations. Besides, this policy also aims to increase the added value of lobster babies. In 2019, the government reopened the discourse to export baby lobster, this was assessed by the previous fisheries minister, would threaten the lobster population in its natural habitat and reduce the added value gained by fishermen. This article will analyze normatively related to the policy prohibiting the export of baby lobsters in Indonesia. Is this policy in accordance with the principles of sustainable development to ensure the principle of environmental sustainability? It means that this principle should guarantee that the benefits of lobster can also be felt by future generations as a form of responsibility for the principle of intrageneration.

1. Introduction

In recent decades, Indonesia has faced the challenge of high demand for lobster commodity exports. In the 2020 world, lobster demand continues to grow, but this is not matched by an adequate supply to
meet market needs [1]. To guarantee the supply of lobsters in Indonesia, fishermen are still dependent on catches in the wild. This is considered to cause a decrease in the availability of lobster populations, thus threatening the preservation of lobsters in the wild [2].

Based on data from the Ministry of Maritime and Fisheries Affairs (KKP), estimation of the potential of fish resources in the fishery management area (WPP), especially for the kind of lobster, has been in the fully exploited zone and even some of them have been over-exploited [3]. 7 WPP has been categorized as overexploited so that the catching of lobsters in the area has to be reduced, while the other 4 WPP is in fully exploited so that the fishing effort in the area must be maintained with strict monitoring in order to avoid exploitation which will disrupt the viability of lobsters in the region.

To ensure the sustainability of the population of high economic value of lobsters, the Government responded by issuing the Ministry of Marine and Fisheries Regulation in 2015, which substantially limits the catch Lobster (Panulirus spp.), Crab (Scylla spp.), and Rajungan (Portunus Spp.), which is suspected to be threatened. In 2016, furthermore, the Ministry of Marine and Fisheries Regulation was emphasized by a prohibition on buying and selling of baby lobster for cultivation as an export commodity. However, the Ministry of Marine and Fisheries Regulation did not last long after the 2019 general election, which confirmed President Joko Widodo's leadership for the second period. The regime in the KKP changed, and the policies have also changed. At the end of 2019, the new KPP planned to rethink the policy to ban baby lobster exports [4]. As a result, in mid-2020, the policy to ban the export of baby lobster was lifted, replaced with a policy that allowed baby lobster exports [5]. This policy is considered counterproductive to the commitment of sustainable fisheries.

A sustainable development approach is an approach that is resulted from an increase in environmental awareness and the decline of the earth to support life [6]. This approach is a development scheme that aims to meet the needs of the current generation without reducing the ability of future generations [6]. This development also includes related to the natural resource management sector in the field of fisheries. The Marine Stewardship Council defines sustainable fisheries as a way of producing fish including other fishery resources continuously at a reasonable rate considering to the ecological health, and minimizing side effects that interfere with diversity, the structure and function of the ecosystem, and are managed and operated fairly and responsibly in accordance with local, national, and international law to meet the needs of present and future generations [6].

This paper is a normative analysis to understand the current lobster management policies. It is important to prioritize fisheries management policies based on lobster sustainability compared to other things. So that the benefits of lobster are not only felt by the community at this time but can also be felt by future generations.

2. The Norms of Management Policy of the Baby Lobster Export

2.1. The Normative Basis of Prohibitions of the Baby Lobster Export

The existence of lobsters as an export commodity becomes complicated because of the high challenges for the cultivation of this commodity to ensure the sustainability of fisheries activities. To ensure this continuity, it is necessary to have sustainable environmental conditions and the availability of sustainable baby lobsters [7]. At present, some challenges of the availability of sustainable baby lobster are the fulfillment of baby lobster for aquaculture purposes is fully supplied from wild catches, and factory-made feed is not yet available, as well as the feed used in the lobster farming business is small Pelagic fish fully supplied from fishermen's catches, and is not necessarily available at all times [8]. In addition, the use of feed and an increase in the number of floating net cages that serve as lobster cultivation media have a significant impact on the decline in water quality, which triggers the development of milk disease resulting in decreased production [9].

The high demand for lobsters will trigger a high catching effort. The demand for lobster is not only for lobster, but also baby lobster [10]. This led to massive catch of baby lobster, which will decrease the stock of them in nature and, of course, will affect cultivation activities. The high demand for economically profitable lobsters is certainly not proportional to the threat of extinction of lobster that
will eliminate the benefits of lobster as a whole. In this context, therefore, regulations are needed to control the activity of catching lobsters in order to ensure their availability in nature and lobster cultivation activities can go well to encourage the community’s economy [9].

The Ministry of Maritime and Fisheries Affairs Number 1 / Permen-Kp / 2015 Concerning Lobster Catching (Panulirus Spp.), Crabs (Scylla Spp.), and Rajungan (Portunus Pelagicus Spp.) – PERMEN KP Number 1 of 2015 – prohibit to export the baby lobster. It departs from consideration of the existence and availability of lobster, crabs and rajungan that have decreased population. To ensure the preservation of them, the catching of the three species is carried out. This is the substance of this regulation. Relevant regulations associated with the export of baby lobsters usually made together a package with several marine animal species such as, crab (Scylla spp.) and rajungan (Portunus pelagicus spp.). PERMEN KP Number 1 of 2015 has not explicitly regulated the prohibition of baby lobster exports. It only regulates lobster size restrictions and certain conditions that can be caught. As lobster catching should only be done in conditions that do not lay eggs and with its length of shell more than 8 cm or in other words, it is forbidden to catch lobsters in egg-laying conditions or with sizes below 8 cm.

In 2016, this policy was further emphasized through The Ministry of Maritime and Fisheries Affairs Number 56 / Permen-Kp / 2016 Concerning Prohibition of Catching and / or Expending of Lobster (Panulirus Spp.), Crabs (Scylla Spp.), and Rajungan (Portunus Spp.) From the Territory of the Republic of Indonesia (PERMEN KP Number. 56 of 2016). This policy explicitly prohibits the sale of baby lobsters for cultivation. For every person who catches lobster with a size that is not in accordance with this provision, there are two choices, namely to release if it is still alive and if the lobster caught has been death, it is obliged to make records and report to the Director-General through the port station as required in the fishing license letter [11].

Table 1. Potential Estimation, Number of Catches Allowed, and Level of Utilization of Lobster Resources in WPP Indonesia

| Fisheries Management Area | WPP 571 | WPP 572 | WPP 573 | WPP 711 | WPP 712 | WPP 713 | WPP 714 | WPP 715 | WPP 716 | WPP 717 | WPP 718 |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Potential (tons)           | 673     | 1483    | 970     | 1421    | 989     | 927     | 724     | 846     | 894     | 1,044   | 1,187   |
| Number of Arrests allowed (tons) | 539 | 1186    | 776     | 1137    | 791     | 742     | 579     | 677     | 715     | 835     | 950     |
| Utilization Rate           | 1.30    | 0.93    | 0.61    | 0.54    | 1.36    | 1.40    | 1.73    | 1.32    | 0.75    | 1.04    | 0.97    |

Source: Decree of the Minister of Maritime Affairs and Fisheries Number 50 / Kepmen-KP / 2017

Explanation of Utilization Level (E):
E <0.5: Moderate, capture effort can be added;
0 ≤ E <1: Fully - exploited, capture effort is maintained by a tight monitor;
E ≥ 1: Over exploited, capture effort must be reduced
KEPMEN KP Number 50 of 2017 data is not something that can be ignored. This estimation considered also study results of the National Commission of Assessment of Fish Resources (Komnas KAJISKAN). This institution was formed by KKP, which consists of experts with the task of determining the potential and the amount of catch allowed (JTB) [12]. The determination of the predetermined estimate must be carried out to prevent over-exploitation of fisheries resources, especially lobsters that become vulnerable. Of course, this is also the responsibility of the intra-generation to take some benefits of lobsters to be felt by future generations.

2.2. Normative Basis for Export Licensing of Baby Lobster

In 2019, after the general election, Joko Widodo was re-elected for the second period. The continuation of this government is not followed by the continuation of the regime in the marine and fisheries sector. In the focus of Joko Widodo's government work in the second period, one of which is related to the economic transformation from reliance on natural resources to modern competitiveness and modern services that increase the added value of its economy. The president also encourages the simplification of regulations so as not to impede investment and able to create the broadest possible employment [13]. The impact of this work focus on the fisheries sector is the change in regulations and policies in the new KKP regime.

Regarding to lobster, the new KKP regime issued a discourse to review its baby lobster export ban policy. This is based on the rampant smuggling of baby lobster abroad so that it is feared that it can disrupt the sustainability of the lobster ecosystem in nature. Besides that, many small fishermen are dependent on the baby lobster trade. The existence of baby lobsters in nature to maturity is considered to have a maximum survival rate of 1%. To maximize the utilization of it, it is needed some efforts to breed the lobster in order to increase its economic value [14].

In 2020, the Government finally issued a regulation to allow the export of baby lobsters. These provisions stipulated in the Regulation of the Ministry of Marine and Fisheries Affairs Number 12 / Permen-Kp / 2020 on the management of the Lobster (Panulirus spp.), Crab (Scylla spp.), and Rajungan (Portunus Spp.) In the territory of the Republic of Indonesia. The basis for the consideration of this regulation is not just to maintain the sustainability of the availability of fisheries resources, but this provision is also made to improve the welfare of the community, equality in cultivation technology, investment development, increase in foreign exchange. Therefore, this regulation is deemed necessary to re-regulate the provisions regarding the catch and release of the three species above, including baby lobster.

In general, the provisions of this regulation divide 3 categories of lobsters based on their size, namely; (a) Puerulus for non-pigmented post larvae; (b) Panulirus spp. Larger than Puerulus up to sizes smaller than 150 grams; and (c) lobster more than 150 grams. This regulation strictly stipulates several conditions in exporting baby lobster, as regulated in article 5 paragraph 1, namely:

“Issuance of Puerulus with Harmonized System Code 0306.31.10 from the territory of the Republic of Indonesia can only be done with the following provisions:

a) quota and location for catching Puerulus according to the results of studies from Komnas KAJISKAN established by the Directorate General that carries out tasks and functions in the field of fisheries catching;

b) exporters must carry out the activities of Panulirus spp. in domestic by involving the community or the local cultivators based on the recommendations of the Directorate General that carries out tasks and functions in the field of aquaculture;

c) exporters have successfully carried out domestic Lobster (Panulirus spp.) as referred to in Article 3 paragraph (1) indicated by:
   1. has been harvested sustainably; and
   2. has released Lobster (Panulirus spp.) as much as 2 (two) percent of the results of Cultivation and with the appropriate size of the yield;
d) The issuance of Puerulus is carried out through the airport that has been determined by the body that carries out its duties and functions in the field of fish quarantine, as a special expenditure place for Puerulus;

e) Puerulus is obtained from small fishermen catching Puerulus who are registered in the Fishermen group at the location of catching Puerulus;

f) the time for issuing Puerulus is carried out by following the availability of stock in the nature recommended by Komnas KAJISKAN and determined by the Directorate General that carries out tasks and functions in the field of fisheries catching;

g) catching Puerulus must be carried out using passive fishing tools;

h) has a Certificate of Origin issued by the district/city office in charge of fisheries to the local government;

i) fisherman of Puerulus determined by the Directorate General who carries out tasks and functions in the field of fisheries catch; and

j) exporters of Puerulus must be registered with the Directorate General, who carries out tasks and functions in the field of fisheries catching.

In general, although this regulation has set strict conditions in carrying out baby lobster export activities, namely requiring exporters to carry out cultivation business and releasing at least 2% of the cultivation of the size according to the yield, we do not release the patterns carried by the regulation, called to increase the economic value with the country's foreign exchange income from export activities and in realizing these objectives. Therefore, it is important to simplify the regulations to do not hamper these activities.

3. Sustainable Development Principle Analysis

The orientation of natural resource management today has conceptually been switched from exploitative purely economic basis to the sustainable and responsible concept to consider the relationship between human beings and the environment. This is known as sustainable development (SDGs), which in substance is a development that can meet the needs of the current generation without reducing the ability of future generations [6].

SDGs itself is a sustainable development agenda from 2015-2030. It is an international legal instrument as a continuation of the Millennium Development Goals (MDGs), which is a development agenda from 2000-2015. The MDGs are seen as giving a great responsibility to the development targets of developing and underdeveloped countries, without giving a balanced role to developed countries. In addition, the preparation of the MDGs until their implementation is considered exclusive and very bureaucratic, without involving the role of non-governmental stakeholders such as civil society organizations, universities/academics, the business and private sectors, and other groups. The existence of SDGs is considered to be more complete in solving development problems in a more comprehensive, more universal manner by giving a balanced role to both developed, developing and underdeveloped countries to contribute to the development and to formulate and implement more participatory in involving non-government stakeholders [15].

Transformation in the sustainable development approach also needs to be done from the triple bottom line approach, which clashes dichotomically in economic and ecological interests towards the Nested Logic approach to see the need for a balance between economic and ecological interests. The triple bottom line concept considers three aspects, namely economic benefits, environmental quality, and social justice. These three dimensions are often viewed separately and only connected in certain slices, consequently economic growth is maximized but threatens environmental sustainability. Another case with the Nested Logic approach which sees that the economy and society are part of the biosphere; therefore socio-economic growth must continue to grow within the limits of the biosphere's capabilities [16]. In this context, it is understood that the management of fisheries' natural resources to improve the economy of the community must continue to pay attention to the carrying capacity of the
environment in the region. Neglecting this will cause the community to lose its ecological function of the existing environmental services and will have an impact on declining economic activity.

Indonesia itself as one of the member countries in the United Nations plays an active role in determining the objectives of the Sustainable Development Goals (SDGs) as stipulated in the Transforming Our World: The 2030 Agenda document for Sustainable Development, so as to fulfill this commitment, the government enacts the presidential Regulation Number 59 of 2017 Concerning the Implementation of Achievement of Sustainable Development Goals. Specific provisions govern the national targets for the period of 2017-2019 in the National Medium-Term Development Plan (RPJMN), which is in line with SDGs, not least in the field of fisheries.

Agenda 14th of SDGs preserve and sustainably utilize marine resources and oceans for sustainable development. This provision is formulated in four global targets by 2020, two of the global targets are substance: (a) managing and protecting marine and coastal ecosystems in a sustainable manner; and (b) effectively regulating to harvest and stopping excessive fishing, illegal fishing and practices destructive fishing, and implementing science-based management plans [21]. These two global targets are transformed into the 2015-2019 RPJMN targets, namely: (a) The realization of governance in the utilization of marine resources through the availability of policies, legal frameworks, and instruments related to national sea spatial planning and the management of 11 fisheries management areas (WPP)) continuously until 2019; and (b) Increasing in fisheries production catching to 6,982,560 tons in 2019, compared to 6,299,290 tons in 2015 [16].

If it refers to the definition of sustainable fisheries from the Marine Stewardship Council substantially not much different as explained in the regulation above, namely a scheme to produce fish (including other fisheries resources) carried out in such a way that it can take place continuously at a reasonable level with consider ecological health, minimize side effects that disrupt the diversity, structure and function of ecosystems, and are managed and operated fairly and responsibly, in accordance with local, national and international laws and regulations to meet the needs of present and future generations [16].

In this case, if the government wants to allow the baby lobster export policy, data on the potential estimation and the level of utilization of fisheries resource, especially lobster, which is the result of study of the National Commission of KAJISKAN. These data then should be in charge of the decision of the minister, so it has no binding force on the basis of resource management sustainable fisheries power. This is in line with one of the global goals in realizing of SDGs by stopping excessive fishing, illegal fishing, and destructive fishing practices, and implementing science-based management plans. Government intervention is needed to prevent over-exploitation of baby lobsters.

In addition, the baby lobster export policy also ignores the provisions in Law No. 45 of 2009 concerning Amendments to Law No. 31 of 2004 concerning Fisheries, which mandates that fisheries management be carried out to obtain optimal and sustainable benefits and to guarantee the preservation of fish resources [17]. To ensure the sustainability of fish resources assigned potential and allocation of fish resources and the number of allowable catch in WPP Indonesia through ministerial decrees by considering the recommendation of the National Commission of KAJISKAN [18]. The birth of baby lobster export policy was made before the results of the latest National Commission of KAJISKAN, which should be the basis for baby lobster export licensing policies. The results of the last study in 2017 and have not been updated until this policy came, the level of utilization of lobster resources in the results of this study is still in the category of Fully exploited and Over Exploited, which should be taken is to tightly control the catching of lobster and exit reducing these activities, up to the results of the new study found evidence to the contrary.

The implications of the baby lobster export policy will also impact the lobster cultivator's business. According to Abdul Halim, Executive Director of the Center of Maritime Studies for Humanity, there are 3 impacts that will be felt by farmers from this regulation: (a) They have difficulty in getting quality baby lobster; (b) They find it difficult to get good quality baby lobster at affordable prices; (c) The selling price of their lobster will decrease drastically because it cannot compete with the lobster produced by neighbouring countries, especially Vietnam which is known to be rather well established
with lobster enlargement matters [19]. The previous PERMEN KP No. 56 of 2016 prohibits the export of baby lobster. It has weaknesses because it is more focused on efforts to limit and prohibit the trade of baby lobsters, both domestic and abroad. The implication of it has made the practice of smuggling baby lobster to abroad [20]. The baby lobster smuggling will exacerbate the condition of the availability of lobsters in Indonesian WPP, which are already fully exploited and over e-exploited.

The government should focus on increasing the capacity of the fisherman to be able to do a good lobster farming business. In addition, there is also a need to increase solidarity among lobster growers business groups to share experiences and knowledge. This is given the character of the lobster business in Indonesia which is developing solitary, the impact of making the bargaining power of fishermen and lobster traders in Indonesia to be weak to develop their lobster business [21]. The presence of the government is needed to carry out social engineering and encourage solidarity between fishermen and traders to organize and foster a healthy business climate and play a significant role in the international lobster trade scheme. The government also needs to encourage universities or research institutions related to lobster cultivation, especially in the fields of baby lobster and its feed so that the threat of endless baby lobsters in the wild can be resolved by increasing innovation and technology to ensure their availability in the wild and guarantee food for the community, as well as the provision of lobster feed.

Finally, this government policy can guarantee the use of lobsters that are in line with the sustainable development agenda ad in accordance with the nested logic approach - the use of lobsters in line with the carrying capacity of the environment and still be able to maximize its benefits by increasing the capacity of aquaculture businesses to ensure the availability of lobster food for the domestic market and for the needs of the world.

4. Conclusion

It can be concluded that baby lobster export policies were initially banned based on the high challenges for the cultivation of this commodity. At present, the fulfillment of baby lobster for cultivation purposes is fully supplied from wild catches. The lobster catching activities in all Indonesian WPP are already in an alarming category, out of 11 WPP in Indonesia, 4 WPP is already in the Fully Exploited category, while 7 other WPPs are in the Over-Exploited category. The policy prohibiting the export of baby lobster, therefore, is appropriate to prevent massive lobster catching activities and to maintain the sustainability of lobsters in accordance with the carrying capacity of the environment.

Regarding the baby lobster export policy in 2020, it is contrary to the principle of sustainable development that must pay attention to environmental carrying capacity. It is because there has not been a result of the National Commission of KAJISKAN study to show the potential stock of lobsters in the Indonesian WPP. In other words, there is no data to indicate that lobster in Indonesia WPP are abundant and may increase catching lobster activities. In addition, side effects from permits issued to obtain baby lobster exports will increase massive catching lobster activities.

Reference

[1] Anonim, Lobster demand continues to grow, but supply weakens, 30/03/2020, http://www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/1268633/ Accessed on May 17, 2020
[2] Zahri Nasution, Bayu Vita Indah, Yanti, Nurlaili 2018 Readiness and Strengthening of Community Institutions in Supporting the Management of Lobster Restocking Program. Journal of Indonesian Fisheries Policy 10 (1) 34
[3] Center for Data, Statistics and Information 2018 Marine and Fisheries in Figures 2018, Jakarta: Center for Data, Statistics and Information of the Ministry of Maritime and Fisheries Affairs 36
[4] Rr Ariyani Yakti Widyastuti 2019 Dorong Ekspor Benih Lobster, Edhy Prabowo: Kami Ada Kajiannya https://bisnis.tempo.co/read/1285793/dorong-ekspor-benih-lobster-edhy-prabowo-kami-ada-kajiannya/full&view=ok Accessed on May 17, 2020

[5] Kodrat Setiawan, Edhy Prabowo 2020 Ungkap Alasan Ekspor Benih Lobster Diperbolehkan https://bisnis.tempo.co/read/1341694/edhy-prabowo-ungkap-alasan-ekspor-benih-lobster-diperbolehkan Accessed on 17 May 2020

[6] Review of Sustainable Fisheries Management Strategies 2014 Ministry of PPN / Bappenas Directorate of Maritime Affairs and Fisheries 2-1

[7] Erlania, I Nyoman Radiarta and Ketut Sugama 2014 The Dynamics of Lobster (Panulirus Spp.) Seed Abundance in Gerupuk Bay Waters, West Nusa Tenggara: Challenges in Developing Lobster Cultivation Technology. Journal of Aquaculture Research 9:3 476-485

[8] SA Adha Taridala, LO Muhammad Aslan, Yusnaini, Asriya 2019 Income and Cost Efficiency of Lobster Farming in Soropia, Southeast Sulawesi, Indonesia” IOP Conf. Series: Earth and Environmental Science 382 012037 2

[9] Akhmad Mustafa 2013 Lobster (Panulirus Sp.) Cultivation in Vietnam and Its Application in Indonesia. Aquaculture Media 8 (2) 84

[10] Mambari 2017 Kenapa Penyelundupan Benih Lobster Terus Meningkat? 3 August 2017, https://www.mongabay.co.id/2017/08/03/kenapa-penyelundupan-benih-lobster-terus-meningkat/ Accessed on 19th May 2020

[11] Article 7 of Regulation of the Ministry of Maritime and Fisheries Affairs of the Republic of Indonesia Number 56/Permen-Kp/2016 Tentang Larangan Penangkapan Dan/Atau Pengeluaran Lobster (Panulirus Spp.), Kepiting (Scylla Spp.), Dan Rajungan (Portunus Spp.) Dari Wilayah Negara Republik Indonesia

[12] Regulation of the Ministry of Maritime and Fisheries Affairs of the Republic of Indonesia Number 30 / Permen-Kp / 2016 Regarding the National Commissioner on the Study of Fish Resources

[13] Anonim 2019 Lima Fokus Kerja di Periode kedua Pemerintah Joko Widodo, 20/10/2019, https://kppip.go.id/siaran-pers/lima-fokus-kerja-di-periode-kedua-pemerintahan-jokowi/ Accessed 19 May 2020

[14] Lilly Apriliya Pregiwati 2019 Kaji Regulasi Pemanfaatan Benih Lobster, Menteri Edhy: Kelestarian Lingkungan dan Mata Pencaharian Harus Seimbang. 16 Desember 2019 https://knp.go.id/artikel/15874-kaji-regulasi-pemanfaatan-benih-lobster-menteri-edhy-kelestarian-lingkungan-dan-mata-pencaharian-harus-seimbang, Accessed on May 19 2020

[15] Sekar Panuluh, Meila Riskia Fitri 2016 Development of the Implementation of Sustainable Development Goals (SDGs) in Indonesia September 2015-September 2016, Briefing Paper 02 International NGO Forum on Indonesian Development 4-5

[16] Jamaluddin Jompa 2019 Science for Indonesian Biodiversity. Indonesian Academy of Sciences151-154

[17] Attachment of the Republic of Indonesia Presidential Regulation Number 59 Year 2017 Regarding the Implementation of Achieving Sustainable Development Goals, Global Goals 14, Global Goals 1 and 2 68-69

[18] Article 6 of the Republic of Indonesia Law No. 31/2004 concerning Fisheries in conjunction with Law of the Republic of Indonesia No. 45/2009 concerning Amendment to Law No. 31/2004 concerning Fisheries

[19] Article 7 paragraph 1 of the Law of the Republic of Indonesia Number 31 of 2004 concerning Fisheries jo Law of the Republic of Indonesia Number 45 of 2009 concerning Amendments to Law Number 31 of 2004 concerning Fisheries

[20] Abdul Halim, How are Cultivation Fisheries in the Covid Pandemic Period 19, WEBINAR From Home by Mongabay and the Journalist Learning Forum held online on Wednesday May 13, 2020
[21] Erlangga Djumena, Dilema Edhy, Larang Ekspor Benih Lobster dan Maraknya Penyelundupan, 16 Desember 2019 https://money.kompas.com/read/2019/12/16/093500226/dilema-edhy-larang-ekspor-benih-lobster-dan-maraknya-smuggling? page=all Accessed on May 20, 2020

[22] Armen Zulham 2018 Social Construction in Building a Lobster Business in Indonesia. Indonesian Fisheries Policy Journal 10(1) 48