Original Research Article

~~ANALYSIS OF~~ OPERATIONAL ~~CONDITIONS~~ Practices OF PRODUCTION AND DISTRIBUTION OF THE NUSANTARA FISHERY PORT in ~~(NFP) PALABUHANRATU~~ WEST JAVA ~~IN CONDITIONS~~ BEFORE AND AFTER THE COVID-19 PANDEMIC

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COVID-19 Impacts on the Fish Productionand Distribution Status atthe Nusantara Fishery Port, West Java, Indoneisa

ABSTRACT

This study aims to analyze the impact of Covid-19 on the operational conditions of production and distribution at the Palabuhanratu Nusantara Fisheries Port (NFP) before and after the Covid-19 pandemic. ~~This research was conducted from May 2021 to July 2022. The method used in this research is survey and qualitative methods. Analysis of the data used is descriptive analysis.~~ Data was collected from May 2021 to July 2022 through ~~interviews~~ interviewing 7 port officers and 25 fishermen based on certain criteria and direct observations in the field ~~(observation)~~. ~~The sampling technique used in this study was purposive sampling, namely 7 port officers and 25 fishermen based on certain criteria.~~ The results shows that the the amount of fish production and fish catch per fishing gear decreasedsignificantly in ~~in the volume of fish production landed in port ponds was due to a significant decrease in fish production per fishing gear and the~~ pattern of the fish season in 2020, ~~namelyat~~ the peak of the pandemic~~, and also some catches decreased in 2020~~. ~~during~~During the peak of the pandemic (2020), fish catch per fishing gear decreased from ~~such as Gillnet~~fillnet, ~~Tuna~~ tuna ~~Longline~~Long line, ~~Toddler~~ toddler fishing, ~~Tramel~~ tramelnet, ~~Hand~~ hand fishing and ~~Purse~~ purse sein. The distribution of fresh fish at the peak of the pandemic ~~(2020)~~ has increased, while the distribution of pindang fish and salted fish has decreased. This happens because fish production at

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the peak of the pandemic (2020) has decreased, therefore fish in ports do not experience over stock so for Pindang and salted fish is reducedprocessed fish production. pindang and salted fish) is reduced. The highest income for payang and fishing rods was Rp. 650,000 before the pandemic and after the pandemic; the lowest income was Rp. 350,000 for net fishermen. Based on the results of interviews, most fishermen stated that the average household expenditure before and after the pandemic did not change much.

Keywords:Production Operations, Distribution, NFP, Covid-19 Pandemic

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1. INTRODUCTION

The coronavirus (COVID-19) pandemic entered Indonesia on early 2020. The government implemented a *Work From Home*(WFH) system and *lockdown* to reduce the potential for the spread of the virus. The appeal was strengthened by the enactment of Government Regulation No. RI. 21 of 2020 regarding Large-Scale Social Restrictions (PSBB) in the context of accelerating the handling of *Corona Virus Disease* 2019 (COVID-19). The impact of the WFH system that is applied more or less affects the fishing industry players. Of course, conditions like this will affect all aspects of the economy, including the fisheries aspect.

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The impact of the COVID-19 pandemic has also been felt onaffected/influencedthe fishery operations at the Fishing Port. *The lockdown* has limited the movement of people and goods, resulting in the cessation of the marketing, distribution and operational chains at the Palabuhanratu Archipelago Fishery Port (NFP). Gokkon (2020) and KKP (Directorate General of Capture Fisheries 2020) reported a decline in fish prices due to declining demand. This is reinforced by the statement of the Indonesian Non-Governmental Organization *Destrictive Fishing Watch* (DFW) which considers that the impact of COVID-19 has begun to be felt in the capture fisheries industry from upstream to downstream, decreasing demand from abroad by 30-40% (Antara 2020). Based on data from the BPS (Central Statistics Agency) in 2020, it is stated that the fish pricedecline in last two months fish prices has occurred since the last two months sincedue to the COVID-19 pandemic in Indonesia. The number of fishing activities in the PalabuhanratuNFP does not guarantee that many fishing vessels will operate. During In2015 fishing vessels experienced a decrease in operations compared to 2014 which amounted to 20.03%, the decline in the number of vessels operating above especially occurred in the types of motorized boats (tonda and longline fishing rods 10.14-30%) and outboard motor boats (handline fishing line 13). .11%, net rampus 63.24%, paying 32.88% and dogol 12.90%) (Nusantara Fishery Port (NFP) Palabuhanratu, 2015).

Since the operation of PalabuhanratuNFPwas has been inaugurated operatedwithin fora period of 23 years, namely since (1993-2015), the development of fish production has continued to fluctuate. According to the West Java Fisheries Service, Pelabuhanratu located in Sukabumi Regency is one of the capture fisheries bases for fishing areas in the South Java Sea and the Indonesian Exclusive Economic Zone (ZEEI) in Indian Ocean waters so that most of the population works as fishermen. According to the Central Bureau of Statistics of Sukabumi Regency in 2011, this area has an area of 4,161 km² or 11.21% of the area of West Java or 3.01% of the total area of Java Island. Geographically, Sukabumi Regency is located between 6°57' - 7°25' South Latitude and 106°49' - 107°00' East Longitude. Pelabuhanratu is located on the coast of the Indian Ocean in the south of West Java. Pelabuhanratu was designated as the Nusantara Fisheries Port (NFP) in 2010 by the Ministry of Maritime Affairs and Fisheries as the location for the minapolitan capture fisheries

project. The fishing port is a very important place in the development of the fishing industry and becomes a center for the development of the fishery economy, in terms of production, processing and distribution aspects (Lubis 2012). The Palabuhanratu Nusantara Fishery Port (PNFP) in accordance with its several functions is carrying out marketing and distribution of fish, collecting data on catches and fishery products, carrying out counseling and developing fishing communities and providing logisticalneeds support to go to sea to carry outfor fishing operations, which should be facilitated by the port. The implementation of catching is carried out every day, the catch is the types of fish that have economic value that are quite in demand by consumers.

The decrease in community activities outside the home will have an impact on decreasing demand for food ingredients, including fish caught by fishermen and fish cultivators. Based on this, if it lasts long enough, it will have an impact on port operations due to *lockdown* in several countries. As a result, the volume of fish exports will decrease and the income of fishermen will also decrease. The Nusantara Fisheries Port (NFP) of Pelabuhanratu is an important area in the south of West Java as the largest producer of capture fisheries. This study was conducted to understand the impact of the COVID-19 pandemic on fish production and distribution at Pelabuhanratu, a study on the Analysis of the Production and Distribution Operational Conditions of the Nusantara Fisheries Port (NFP) in Sukabumi Regency, West Java, in Conditionsbefore and after the COVID-19 Pandemic was carried out.

This study aims to find out how the conditions of production and distribution activities before and after the COVID-19 pandemic were related to the number of operating fleets, number of trips, fish production, fish prices, distribution and how the impact of income and expenditure at the Palabuhanratu Fisheries Port (NFP) before and after the Covid-19 pandemic.

The results of this study are expected to be information, so that it can be used as *feedback* for future port management and is useful for knowing things that are studied in economic sociology, especially economics in coastal areas. In addition, this research is expected to be useful as information material and a description of the community, the management of the Nusantara Fisheries Port and the Sukabumi District Fisheries and Marine Service regarding economic activities and changes that occur in production and distribution operational activities around the Nusantara Fishery Port in the Covid-19 condition.

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2. MATERIAL AND METHODS

This research was conducted from May 2021 to July 2022 in Palabuhanratu. The research method used is throughsurvey and qualitative methods. The survey method collects respondent dData was collected by direct interviews or through online media. Qualitative methods are used to explain the situation in depth by collecting data which is then analyzed to obtain research conclusions. The sampling method used is purposive sampling, which uses a sampling technique based on certain criteria. The population in this study werepopulation in this study was 7 port officers and 25 fishermen.

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2.1 Data Analysis

Analysis of the data used in this study using descriptive analysis methods, including :

a. Data Reduction

   Reducing data that is summarizing, choosing the main things, focusing on the things that are important, looking for themes and patterns and discarding unnecessary ones.

b. Data Display

Presentation of data, namely data will be organized, arranged in a pattern of relationships, so that it will be easier to understand. In qualitative research, data presentation can be done in the form of brief descriptions, charts, relationships between categories, and *flowcharts*. The most frequently used in presenting data in qualitative research is narrative text. By presenting the data will make it easier and understand what happened and facilitate the planning of work to be done next.

c. Drawing Conclusions and Verification

Drawing conclusions and verification, because the initial conclusions put forward are still temporary, and will change if no strong evidence is found to support the next stage of data collection. But if the conclusions put forward at the initial stage are supported by valid and consistent evidence when the researcher returns to the field to collect data, then the conclusion is a credible conclusion. In qualitative research, the expected conclusions are new findings that have never existed before. These findings can be in the form of a description or description of an object that is not yet clear so that it will become clear after research (Sugiyono 2015).

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3. RESULTS AND DISCUSSION

3.1 General Condition of Palabuhanratu

Palabuhanratu is a sub-district located in Sukabumi Regency which is geographically located at 06°57' South Latitude-07° South Latitude and 106°22' East Longitude-106°33' East Longitude with an area of 6.59% of the total Sukabumi Regency ~~as a whole or ± 27,210,130 ha~~. The majority of Palabuhanratu people make a living as fishermen by using various fishing gear. Palabuhanratu waters have a beach length of ±105 km and is the largest bay along the southern coast of Java Island which is directly connected to the Indian Ocean (Nahib 2007). Administratively, the boundaries of the area include Bogor Regency in the north, the south with the Indian Ocean, in the east with Cianjur Regency, and in the west with Lebak Regency and the Indian Ocean (Directorate General of Capture-DKP 2000). Several rivers that are known to flow into the waters of Palabuhanratu Bay include 7 rivers, namely 2 rivers including large rivers, S. Cibareno and S. Cimandiri and 5 other rivers including rivers belonging to small rivers, S. Cidadap, S. Cibutun, S. Cimaja, S. Cipalabuhan and S. Ciletuh. The number of rivers that emptied there makes the waters have a very high fertility rate (Nurdin 2015).

Palabuhanratu is generally the same as other regions in Indonesia which has two seasons, namely the west season which takes place in November-May and the east season which takes place in June-October, besides that there is also a transitional season from the east season to the west season and vice versa. ~~usually~~Usually call it the *liwung* which lasts from March to May and September to November (Nurdin 2015). The west season is a period of very high rainfall and relatively poor water conditions marked by the large waves in these waters, causing most fishermen not to go to sea but fishermen take advantage of this condition to repair boats, repair fishing gear or build businesses in other fields. The east season is a dry period where the water conditions are relatively calm. In this condition fishermen go to sea and carry out fishing operations so that in this period the catch obtained is quite high (Nurdin*et al.* 2015).

Indonesia has implemented a response period for handling covid since early March 2020, then followed by modification of the regional quarantine policy to PSBB starting on April 10, 2020 in Jakarta, then followed by several cities and then followed by other regions within the province, district or city which showed a tendency to increase cases significantly. . After going through the emergency period and the PSBB, the Indonesian government has begun to implement the*newnormal*and loosen the PSBB. In this study, the time span before the

Covid-19 pandemic was 2019, at the peak of the pandemic in 2020 and after the peak of the pandemic in 2021.

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3.2 1 Fishing FleetGear

The fishing fleet at NFPPalabuhanratu is a type of boat and motor boat with sizes of 1-10 GT and > 30 GT with a variety of fishing gear. The dominant fishing gear used includegears used include umbrellas, gill nets, hand-lines, rampus nets, longlinelong line tuna and longlinelong line fishing rods. The number of vessels actively operating from 2019-2021 at NFPPalabuhanratu is presented in Table 1.

Table 1.Number of Fleet Operating in Nusantara Fishery Port in 2019, 2020 and -2021

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CATCHING TOOL	NUMBER OF SHIPS		
	2019	2020	2021
KincangPancingUlur (*hand line*)	236	219	228
KincangjaringRampus (*Shrimp Entagling Gill Net*)	31	38	35
KincangBubu	-	15	15
MT. Payang (*Pelagic Danish Seinne*)	51	44	44
Dogol (*Bottom Danish Seinne*)	27	27	-
Kapal Non PerikanandankapalAndon	-	48	-
AngkutanBagan (*Raft Lift Net*)	21	26	-
KM. Payang (*Pelagic Danish Seinne*)	1	-	-
PancingTonda (*Troll Line*)	77	77	54
JaringRampus (Udang) (*Shrimp Entagline Gill Net*) <10 GT	7	-	-
JaringRampus (Udang) (*Shrimp Entagline Gill Net*) 11-20 GT	-	2	-
Gillnet/Bubu<10 GT	1	2	-
Gillnet/Bubu 20-30 GT	-	1	-
JaringRampus (Udang) (*Shrimp Entagline Gill Net*) 11-20 GT	3	2	-
JaringRampus (Udang) (*Shrimp Entagline Gill Net*) 21-30 GT	1	1	1
Cash net 51-100 GT	-	1	-
Rawai Tuna (*Tuna Longline*)21-30 GT	3	7	3
Rawai Tuna (*Tuna Longline*) 31-50 GT	14	19	14
Rawai Tuna (*Tuna Longline*) 51-100 GT	7	21	13
Purse Sein>100 GT	-	2	2
Handline Tuna 21-30 GT	-	-	3
Handline Tuna 51-100 GT	-	-	1
TOTAL	**480**	**550**	**413**

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The number of fishing vessels operating at the PalabuhanratuNusantara Fishery Port during the 2020 pandemic was 550 units and when compared to 2019 which was 480 units before the pandemic, a slight increase of 15% was followed by a decrease in the number of ships in 2021., namely after the peak of the pandemic of 25%, thus in 2021 there will be some ships that do not carry out fishing activities. The fishing fleet operating at the Palabuhanratu Nusantara Fisheries Port is dominated by hand line fishing gear.

3.~~3~~ 2 Number of Trips

The number of boat trips in this study is the frequency of entry and exit of fishing vessels that reduce their catch at PalabuhanratuNFP. Fishing vessels travel at least 1 day to sea and a maximum of 16 days at one time at sea. The following is data on the number of ship trips at PalabuhanratuNFP.

Table 2. Data onNumber ofTrips ~~For~~for 2019-2021

GT	CATCHING TOOL	NUMBER OF TRIPS		
		2019	2020	2021
	Payang	803	525	-
	PancingUlur	7.793	1.223	17
	Rampus/JaringKlitik	2.773	222	-
	AngkutanBagan	467	178	-
	Trammel Net	2.070	236	-
	Bubu	-	404	-
5-10 GT	AngkutanBagan	1.711	-	-
	Payang	3	-	-
	PancingUlur	125	-	-
	PancingTonda	362	300	184
11-20 GT	Purse Seinne	10	10	-
	Rampus/JaringKlitik	13	15	-
30 GT	Handline Tuna	-	-	1
21-30 GT	Tuna Longline	14	58	4
31-50 GT	JalaJatuhBerkapal	1	1	-
	Tuna Longline	89	94	10
51-100 GT	JalaJatuhBerkapal	1	-	-
	Tuna Longline	46	61	6
	TOTAL	**16.281**	**3.327**	**222**

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Based on table 2, the number of trips at the Palabuhanratu Nusantara Fishery Port before the pandemic (2019) was 16,281 trips while at the peak of the pandemic it decreased (2020) to 3,327 trips and after the peak of the pandemic (2021) again decreased to 222 trips. Factors that affect the number of trips are that several ships in 2020 and 2021 are not operating due to unpredictable natural factors such as in previous years, lack of fishing capital, declining number of buyers and not fishing season at sea. This is in line with Anna's opinion (2020) which states that the Covid-19 pandemic has an impact on the number of trips, the number of catches and product prices.

3.~~4~~ 3Fish Production

Fish production landed at NFPPalabuhanratu mostly comes from the catch of domicile fishing vessels ~~(Palabuhanratu)~~ and some of the catch is imported by land, the same thing as happened at the Jakarta Ocean Fisheries Port (Hadiyanto 2004) and PPI MuaraAngke Jakarta (Nur'aini 2003). The catches landed came from fishing fleets based PNFP and immigrant fishing fleets from Cilacap, Binuangeun and Jakarta~~.~~; while the fish by land came from Jakarta, Ujung Genteng, Cisolok, Cidaun, Binuangeun, Loji and Indramayu. ~~The following is fish production data at the Palabuhanratu NFP :~~

Table 3.Total Production and Value of Fish Production at the Port ~~Data onNumber ofTrips Forin~~ 2019-2021

YEAR	~~Production and~~ Fish ~~Production Value~~ Landed at the Port		~~Production and Value of Fish Production~~ Entering the Port		Total ~~Production and Value of Fish Production at the Port~~	
	Production (Ton)	Value (Rp)	Production (Ton)	Value (Rp)	Production (Ton)	Value (Rp)
2019	5.414,2	111.363.857.750	4.612,4	114.068.411.500	10.026,6	225.432.269.250
2020	5.003,9	110.449.972.184	4.948,3	116.988.567.500	9.952,3	227.438.539.684
2021	5.111,1	97.771.690.500	4.906,7	120.168.787.000	10.017,9	217.940.477.500

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~~Every year the development of fish production at the Palabuhanratu Nusantara Fisheries Port continues to fluctuate. Based on Table 3, it can be seen that the amount of fish~~ Total ishproduction ~~at~~ fromthe Palabuhanratu Nusantara Fisheries Port at the peak of the pandemic (2020) was 9,952.3 tons~~,~~ which is~~a decrease of~~ 74.3 tons less than ~~from~~ the previous year (2019), ~~this was~~may be due to a decrease in the ~~production~~ amountof landed fish. ~~at~~Fish production landed at the in~~the peak of the pandemic (~~2020~~)~~decreased by 410.3 tons from 5,414.2 tons to 5,003.9 tons~~, or decreased by 410.3 tons.~~ Meanwhile, for fish production that entered by land at the peak of the pandemic (2020) increased by 335.9 tons from 4,612.4 tons to 4,948.3 tons~~, which increased by 335.9 tons, this was due to the need for raw materials that could not be met by catches landed in ponds~~. ~~harbor.~~ After the peak of the pandemic (2021)~~, the number of~~ fish production in PPN increased ~~by 65.6 tons or~~ to 10,017.9 tons and~~,so that~~ the production of fish landed also increased to 5,111.1 tons. Meanwhile, fish production that enters by land has decreased by 41.6 tons ~~due to the need for raw materials that can be met by catches landed~~ at PalabuhanratuNFP.

Table 4.~~Data on~~ Fish Production and Value ~~of Fish Production~~ per Region Distributed by Land to the Palabuhanratu Nusantara Fisheries Port ~~for the 2019-2021 Period~~

AREA	YEAR		
	2019	2020	2021

	Production (Ton)	Value (Rp)	Production (Ton)	Value (Rp)	Production (Ton)	Value (Rp)
Jakarta	3.841,51	88.749.150.000	4.086,54	94.260.162.500	4.119,09	97.483.385.000
Palampang	-	-	5,275	79.125.000	2,65	39.750.000
Blanakan	-	-	-	-	5,325	86.487.500
Indramayu	4,4	120.025.000	3,2	59.375.000	3,35	56.150.000
Ujung Genteng	213,095	8.659.715.000	199,19	8.365.980.000	254,346	10.897.783.000
Pangandaran	225,33	9.299.140.000	34,365	1.443.330.000	32,52	1.376.840.000
Karawang	42,104	1.226.528.000	33,13	1.490.850.000	20,788	935.460.000
Eretan	2,75	21.000.000	3,5	52.500.000	1,425	18.762.500
Cianjur	164,65	2.593.125.000	166,453	2.676.050.000	194,825	3.191.700.000
Cilacap	-	-	51,4	915.200.000	8,075	344.250.000
Tegal	25,55	471.050.000	18,475	564.700.000	41,655	669.155.000
Prigi			17,4	295.850.000	7,4	125.850.000
Labuan	47,875	608.675.000	213,225	2.637.580.000	128,77	1.687.995.000
Caringin						
Binuangeun	45,106	1.647.053.500	48,897	1.738.985.000	36,995	1.357.495.000
Panimbang	-	-	67,28	2.408.880.000	49,52	1.897.760.000
TOTAL	**4.612,37**	**114.068.411.500**	**4.948,312**	**116.988.567.500**	**4.906,734**	**120.168.787.000**

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~~In table 4 it can be seen that t~~The production and value of fish ~~production~~ distributed by land ~~to Palabuhanratu NFP each year~~ has increased~~.~~ , may be~~This can be caused by the~~due to increasing demand for fish ~~while~~ and decrease in fish production ~~decreases so that the need for raw materials cannot be met by the catch landed~~ at the port. Fish production distributed by land at the peak of the pandemic (2020) was 4,948,312 tons, ~~an increase of~~ 335,942 tons ~~from~~ more than2019 (before the pandemic), and fish production after the peak of the pandemic (2021) decreased by 41,578 tons ~~was to~~4,906.734 tons ~~or decreased by 41,578 Tons~~. Meanwhile, the value of fish production has increased every year, at the peak of the pandemic (2020) from Rp. 114,068,411,500 to Rp. 116,988,567,500 and was followed by an increase in production value after the peak of the pandemic (2021), which was Rp. 120,168,787,000. The largest fish production and production value is in the Jakarta area in 2021 ~~or after the peak of the pandemic~~, the production is 3,841.51 tons with an average of 320,126 tons/month and the production value is Rp97,483,385,000 with an average of Rp8,123,615,417 /month.

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3.~~5~~ ~~4~~Fish Price

Fish Benchmark Price (FBP) is fish price or value in rupiah for calculating fishery product levies determined by the Minister of Industry and Trade based on information on fish prices in the domestic market and in the international market. The price of the catch in the

PalabuhanratuNFP for each type of fish is different, both pelagic and demersal fish. The dominant catches in PalabuhanratuNFP are tuna, ~~tuna,~~ layur fish, Selayang fish and squid.

Table 5.Fish Price Data for ~~2019, 2020 and 2021~~ at the PalabuhanratuNusantara Fishery Port~~.~~2019, 2020 and 2021

DATE	TYPE OF FISH	FISHERMAN LEVEL (Kg) (Rp)
2/2/2022	Yellowfine Tuna (big)	25000
	Yellowfine Tuna (small)	20000
	Albacor	18000
	Setuhuk/Marlin	38000
	Lemadang	14000
	Cakalang	14000
	Layur	33000
	Swangi	20000
	Bentrong	20000
	Tenggiri	40000
	Layanganggur	17000
	UdangKrosok	85000
	Udangjerbung	110000
	Ikansebelah	17500
	Kurisi	17500
	Tembang	7000
	Peperek	3000
	Tongkolsalur	13000
	TongkolBanyar	13000
	Semar/Koyo (small)	5000
	Semar (big)	17500
	Kakapmerah	40000
	BawalHitam	35000
	Kakaphitam	25000
	Selarekorkuning	12500
	TongkolKwee	35000
	Kembung	25000
	Talang-talang	13000
	Cengker	14000
	Waho	35000
	BawalPutih	150000
	Marlin/GelangPayung	25000
	Cendro	10000
	Manyung	12000

Serepet	30000
T. Lisong	12000
GelangSadap	6000
IkanLidah	7000
Kuro	5000

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~~Based on table 5, the fish price above is the standard price for fish on February 2, 2022.~~ The price determination is carried out without a fish auction process at the TPI. The determination of the price is carried out between the selling fishermen and the buyer traders/processors. Every fisherman who has just returned from the ~~sea,~~sea has to deal directly with many buyers at once or pay a fee to hire a manager to sell them, as well as pay an auction fee to the TPI manager even without an auction. In the absence of a fish auction, there is no price labeling at the time of the fish sale transaction between the seller's fishermen and the buyer's traders/processors. If there is a fish auction, the role of fishermen in selling is replaced by auction officers who, with the auction system and mechanism, are able to deal with many buyers at once. The auction has been held at TPI ~~NFP Palabuhanratu~~ since the operation of this port and has been stopped since 2005 (Pane 2007). Since the Covid-19 pandemic, fishermen have also experienced price fluctuations and high competitiveness, especially ~~for~~ ~~the~~small fishermen. The factors causing the lack of high competitiveness are the high price of fish at the TPI level, but the absence of fish auctions and the lack of attention to KHT and its components at this port (Pane 2009).

3.~~6~~ ~~5~~Fish Distribution

Marketing fishery products from the Palabuhanratu Nusantara Fisheries Port in the form of fresh fish products and processed fish (salted fish and pindang). Distribution destinations include ~~Palabuhanratu (~~local~~)~~ and inter-city distribution includes Sukabumi, Jakarta, Bandung, Bogor, Cicurug and Cianjur. The inter-provincial distribution destinations include Banten and Surabaya. To meet the fish needs at the Palabuhanratu Nusantara Fisheries Port, there are also fish imported from other areas by land including from Jakarta, Cisolok, Loji, Ujung tile, Binuangeun and Muncar, Central Java.

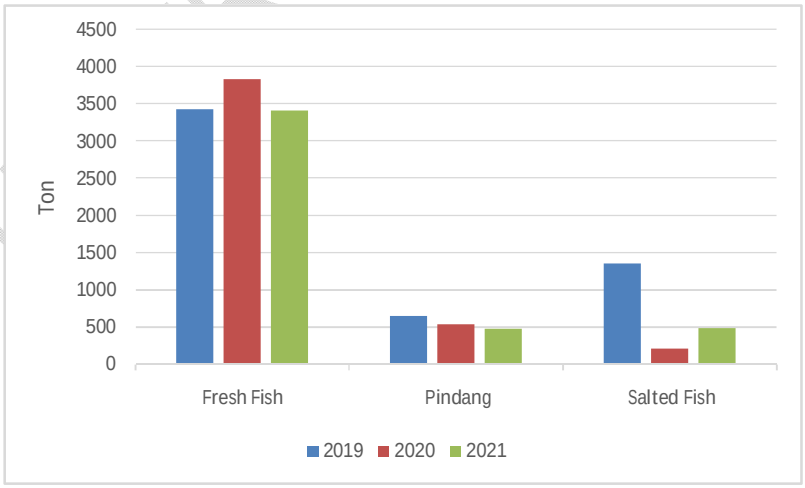

Fig. 1.Fish Distribution Data at the Palabuhanratu Nusantara Fisheries Port

~~Based on Figure 1, t~~The distribution of fresh fish at the peak of the pandemic (2020) which was 3,828.55 tons increased by 402.89 tons, while after the peak of the pandemic it decreased by 424.14 tons, which was to 3,404.41 tons in 2021, the distribution of pindang fish at the peak of the pandemic (2020) which was 536,562 tons decreased by 104,452 tons while after the pandemic experienced the same thing, namely a decrease of 62,759 tons and the distribution of salted fish at the peak of the pandemic (2020), namely 206,268 Tons experienced a very drastic decrease of 1,141,302 Tons, while after the peak of the pandemic (2021), which was 484,369 Tons, there was a slight increase of 278,101 Tons. According to Yunanda (2020) during the pandemic, tuna exports from Indonesia fell by 75%, there was an increase in tuna export costs, excess *cold storage* due to declining demand and excess supply of frozen tuna in the canning industry.

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3.~~7 6~~Fisherman's Income

Fisherman's income is used to meet the needs of life and livelihood of fishermen. Fishermen's income comes from fishing and non-fishing income as farmers or ship cleaning services. Fishermen receive wages with a profit-sharing system (Alpharesy 2012). Profit sharing between owner fishermen and labor fishermen in PalabuhanratuNFP for each fishing gear is different, based on the results of the study as follows:

a) The profit sharing of the fisherman who own the boats ~~an~~and the fisherman of the chart is 60% : 40%
b) The profit sharing of the fishing boatowners with thefishing rods is 50% : 50%
c) The profit sharing of the fisherman who own the boats ~~an~~and the fisherman of the payang is 70% : 30%
d) The profit sharing of the fisherman who own the boats ~~an~~and the fisherman of the chart is 60% : 40%

Table 6.Average Fisherman's Income by Fishing Tool

Catching Tool	Average Monthly Income	
	Before the Pandemic (Rp)	After the Pandemic (Rp)
Payang	650~~.000~~	600.000
Pancing	650.000	550.000
Bagan	500.000	450.000
Jaring	400.000	350.000

In Table 6, it can be seen that the income of fishermen for each fishing gear has decreased after the peak of the pandemic (2021). Fishermen's income is the ~~result of income from activities in one go~~result of income from activities in one goes to sea before the pandemic, which generates a maximum of IDR 650,000 for payang and fishing line fishermen, while the minimum after the peak of the pandemic is IDR 350,000 for net fishermen. In Table6, the income of fishermen after the peak of the pandemic (2021) has decreased relatively, for Payang fishermen decreased by 7.7%, fishing rods decreased by 15.4%, Bagan fishermen decreased by 10% and net fishermen decreased by 12.5% . Capital is very influential on the decline in income because more capital will increase the production of fish caught by fishermen at sea, so that fishermen have the opportunity to increase fuel supplies, replace damaged engines, stock ice blocks and repair ships so that

they are fit to be taken to sea and have fishing gear with technology.~~sufficient in order to increase the production of fish caught by fishermen~~.

3.~~8~~ 7Fisherman's Expenditure

Household expenditure is expenditure on goods and services by household for consumption purposes (BPS 2017). In general, PNFP fisherman's household expenditure can be grouped into two groups, namely food and non-food expenditure. Thus, at a certain income level, households will allocate their income to meet their needs or expenses.

Table 7.Average Fisherman's Expenditure by Fishing Tool

Catching Tool	Average Monthly Expenses	
	Before the Pandemic (Rp)	After the Pandemic (Rp)
Payang	2.250~~.000~~	2.250~~.000~~
Pancing	1.800~~.000~~	1.700~~.000~~
Bagan	1.500~~.000~~	1.500~~.000~~
Jaring	2.000~~.000~~	2.000~~.000~~

~~Based on Table 7, m~~Most of the fishermen stated that the average household expenditure before and after the pandemic did not change much. However, during the pandemic, fishermen's income was less while household expenditures did not decrease, so most fishermen covered their household needs by borrowing from banks or corporations. This is a problem in the fishermen's economy, namely the imbalance between income and expenditure. ~~Can be seen in Table7the decrease in h~~Household expenditure for fishing rods decreased by 5.6% while for payang, bagan and net fishermen it did not experience a decrease. For the largest expenditure before and after the peak of the pandemic, there were payang~~fishermen with an average of Rp. 2,250,000/month and the smallest expenditure before and after the peak of the pandemic was~~a fisherman with an average of Rp. 2,250,000/month and the smallest expenditure before and after the peak of the pandemic was found in Bagan fishermen with an average of Rp. 1,500,000/month. The types of household food expenditure commodities for PNFP fishermen are side dishes, rice, coffee, cigarettes and cooking oil. Meanwhile, non-food expenses are house rent, electricity, motorbike installments, school fees and health costs. For capital expenditures for fishing based on the results of interviews, it is financed by the ship owner. In the scope of PPNP fishermen, most of the fishermen do not have health insurance and fisherman's life insurance due to poor management. The fishermen's health insurance is BPJS Kesehatan (Social Security Administering Agency) and the life insurance provided to fishermen is Kusuka.

4. CONCLUSION

~~Based on the results of processing, data analysis, and discussion of research results on the operational~~Operational conditions of fish production and distribution at the Palabuhanratu Nusantara Fisheries Port (NFP) ~~in conditions~~ before and after the Covid-19 pandemic~~, it can be concluded that the decline~~ changedin the volume of fish ~~production~~ landed ~~in~~ on port~~. ponds is caused by Most of the fish production~~Catch per fishing gear also experienced a significant decline ~~and the pattern of the fish season in 2020, namely at the peak of the pandemic, decreased and also some catches decreased during the peak of the pandemic (2020) such as~~from~~Gillnet~~gillnet, ~~Longline~~long line~~ Tuna~~, ~~Fishing~~ fishing rods, ~~Tramel~~trammel net , ~~Hand~~handline and ~~Purse~~ purse turn signal. The distribution of fresh fish at the peak of the pandemic has increased~~, while the distribution of~~ butpindang fish and salted fish has decreased as~~. This happens because~~ the fish production at the peak of the pandemic (2020) has decreased~~, therefore fish in ports do not experience over stock so for~~

~~processed fish production. pindang and salted fish) is reduced. And the d~~Determination of fish prices is carried out without a fish auction at the TPI, but the price determination is carried out between the selling fishermen and the buyer traders/processors directly at the time of setting the catch.

Based on the results of the study, fishermen's income for each fishing gear decreased after the peak of the pandemic. The income of fishermen in one fishing trip before the pandemic was Rp. 650,000 at most for payang and fishing line fishermen, while the least after the peak of the pandemic was Rp. 350,000 for net fishermen. Most fishermen state that there is an imbalance between income and expenditure. For the largest expenditure before and after the peak of the pandemic, there were payang~~fishermen with an average of Rp. 2,250,000/month and the smallest expenditure before and after the peak of the pandemic was~~fishermen with an average of Rp. 2,250,000/month and the smallest expenditure before and after the peak of the pandemic were found in Bagan fishermen with an average of Rp. 1,500,000/month.

Comment [u22]: Revise these

Comment [u23]: Make it more concise.

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