

based on the formulation of tariffs per GT multiplied by the size of GT vessels according to the type of fishing gear. Therefore, verification or re-measurement is very important to be implemented by the government to overcome the very detrimental markdown.

Table 2. GT Longline Vessels and Gillnet Vessels Comparison

No	Name	GT on Documents	GT Re-Measurement		Difference
			Directorate General of Sea Transportation 2002	Nomura and Yamazaki 1977	
1	Bintang 88	33	42	50	8
2	Jaya Mitra	60	72	88	16
3	Jaya Mitra 2	34	34	41	7
4	Jaya Mitra 3	38	45	54	9
5	Jaya Mitra 5	55	71	86	15
6	Jaya Mitra 7	42	52	63	11
7	Bintang Mas Gemilang	43	50	62	12
8	Cipta Jaya 89	38	47	56	9
9	Mina Jaya	58	66	79	13
10	Cipta Indah	25	36	43	7
11	Maju Jaya I	40	49	60	11
12	Maju Jaya II	50	60	72	12
13	Cipta Jaya II	38	38	46	8
14	Cipta Jaya 88	37	45	54	9
15	Bintang Selatan 88	33	33	40	7
16	Bintang Mas II	49	57	69	12
17	Samudera Jaya 88	43	56	67	11
18	Karya Sempurna	29	39	47	8
19	Bintang Baru	29	37	44	7
20	Alam Semesta	25	36	43	7
21	Indoprima Jaya I	29	39	47	8
22	Cipta Baru Jaya	25	36	44	8
23	Bintang Bahari 88	72	77	93	16
24	Bintang Timur II	60	66	80	14
25*	Bahari Express 3	30	44	53	9
Average		41	49	59	10

*Gillnet vessels

3.2 Gillnet Vessel

According to Julianiet *al.* (2019), gillnet and drift gill fishing gear commonly used by fishermen to catch small pelagic fish such as mackerel (*Rastrelliger spp*) and layur fish (*Trichiurus lepturus*). Boat nets (Figure 3) are fishing fleets with fishing nets as fishing gear.

Fishermen use a gillnet for fishing because the material is easy to obtain, easy to operate and the operating costs are affordable. The operation of gillnet is carried out passively so that the vessels operating it can be categorized as static gear vessels (Istiqomahet *al.* 2014).



Figure 3 . Gillnet Vessel

3.2.1 Suitability of GT Gillnet Vessel

In this study repeated measurements were carried out on vessels measuring >20 GT following the statement of Firdauset *al.* (2017) which states that vessels that make a lot of markdowns are vessels with size >20 GT. Measurements were made directly by the author of one boat net measuring >20 GT and was leaning on PalabuhanratuFishing Port. The steamed nets which were remeasured during the study were KM Bahari Express 3. The amount of GT KM Bahari Express 3 on the document is 30 GT.

Gillnet in PalabuhanratuFishing Port which have been re-measured at the time of the study are proven to be 100% markdown practices. The measurement result of GT was 44 GT and 30 GT was stated in the document. Based on the re-measurement of fishing vessels in Belawan Harbor (Supervision of Marine Resources and Fisheries (2015)), the number of fishing vessels carrying out markdown practices for vessel size categories of less than 30 GT reached 100%, for the vessel size category more from 30 GT it reached 92.86%. Meanwhile, the results of Pradiptyo's study (2016) show results that are different from the results of repeated measurements at the Port of Belawan, where for the number of vessels with a category of vessels less than 30 GT that carry out markdown practices it is estimated as many as 31.3% and for the average number of vessels practice markdown at sizes less than 30 GT and more than 30 GT reaching 65.7%. Based on comparisons from the two regions, the percentage of markdown practices in PalabuhanratuFishing Port is relatively high on vessel sizes>20 GT, which is 100%.

The motive for carrying out the practice of marking a steamer net from size 44 GT to 30 GT is to get fuel subsidies. In accordance with the statement of Firdauset *al.* (2017) that many vessels mark up to <30 GT vessels to get fuel subsidies from the government. Besides Firdauset *al.* (2017) also mentions that another disadvantage of the practice of markdown is that the practice of markdown has triggered depletion of resources faster and greater, thus threatening the sustainability of fisheries management in Indonesia. Furthermore, Firdauset *al.* (2017) also states that the lack of supervision in the field is also one of the triggering factors for markdown practices.

3.3 Gross Tonnage (GT) Comparison of Longline Vessels and Gillnet Vessel Using the of Directorate General of Sea Transportation 2002 Formula with Nomura and Yamazaki 1977 Formula

In 2002 the Directorate General of Sea Transportation officially changed the formula for calculating gross tonnage (GT) for vessels with coefficient values or conversion of vessel gross tonnage (GT) from 0.353 to 0.25 through Decree of the Director General of Sea Transportation Number: PY.67 / 1 / 16-02 concerning changes to the decision of the Directorate General of Sea Transportation Number PY.67 / 1 / 13-90 dated October 6, 1990 concerning Implementation of the Decree of the Minister of Transportation Number KM.41 of 1990 concerning Measurement of Indonesian Vessels. The Directorate General of Sea Transportation changed the coefficient with the aim that the method of domestic measurement was following the provisions of the 1969 International Convention on Vessel Measurement (TMS) and there were also demands from stakeholders that the coefficient of 0.353 be changed because it was too large. This change will cause the results of different GT vessels in domestic measurements to use the Directorate General of Sea Transportation 2002 formula when compared with international measurements that have a GT conversion of 0.353 following the provisions of the coefficient values applied by the Nomura and Yamazaki 1977 formulas.

The results of the GT measurements of the two formulas are different due to the different GT multiplications in the conversion and there was no coefficient of block (Cb) information used by the measuring team to calculate the GT of the ship. The average difference in the size of GT longline vessels and gillnet vessel in Palabuhanratu Fishing Port according to the Directorate General of Sea Transportation 2002 formula with Nomura and Yamazaki 1977 is 10 GT. The losses that would be experienced if the 2002 DG Perla GT compared to the 1977 Nomura and Yamazaki measurement results are as follows:

- a. The state loss in the form of Non-Tax State Revenue will not be in accordance with the conditions in the field as stated in the Decree of the Minister of Finance of the Republic of Indonesia number 316 / KMK.06 / 2001 concerning Procedures for Imposing and Depositing Fisheries Levies.
- b. The loss of the ship owner is in the form of assistance from the government, submission of insurance and when making loans with the ship as collateral because the government will provide assistance in accordance with the size of the GT of the ship.

4. CONCLUSION

Based on the results of the study it can be concluded that:

- 1) Vessels in Palabuhanratu Fishing Port which are more than 20 GT are longline vessels and gillnet vessel. As many as 88% or 21 longline vessels in Palabuhanratu Fishing Port are not following the actual physical condition of the vessel or markdown practices. Markdown practice is also carried out by gillnet vessel that are equal to 100%.
- 2) The average difference between the results of GT calculations based on the of Directorate General of Sea Transportation 2002 with Nomura and Yamazaki 1977 formula on longline vessels and gillnet vessels is 10 GT. The difference will harm the country and fisheries.

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