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SUITABILITY OF GROSS TONNAGE OF GRANT FISHING VESSEL BY KEMENTERIANKELAUTANDANPERIKANAN BASED IN SUKABUMI REGENCY

Delinda Nirmalasari*,[1], IzzaMahdiana Apriliani[2], Dedi Supriadi[2], Alexander M.A. Khan[2]

[1]*Student inFaculty of Fisheries and Marine Science, UniversitasPadjadjaran*
[2]*Lecturer inDepartment of Fisheries, Faculty of Fisheries and Marine Science, UniversitasPadjadjaran*
JalanRaya Bandung - Sumedang, KM 21, Jatinangor 40600, Indonesia.
**E-mail: delindanirmala66@gmail.com*

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ABSTRACT

The great potential of fisheries in Sukabumi Regency must be supported by the presence of an adequate fishing vessel to increase the production of catches in Sukabumi Regency, therefore Kementerian Kelautan dan Perikanan (KKP) is rolling out a program that is a grant fishing vessel aid for fishermen in Sukabumi Regency who are members of the Business Group Together (Ind : KUB). Gross Tonnage (GT) is closely related to capturing fisheries management. Therefore good GT vessel size data is absolutely needed by the government so that the government is right in making decisions in conducting capture fisheries management activities. This research aims to determine the suitability of the gross tonnage size of grant fishing vessel and compare it to vessel certificate. The research was conducted in August 2019 and January 2020 in 4 coastal sub-districts in Sukabumi Regency, namely Cisolok Sub-District, Palabuhanratu Sub-District, Ciemas Sub-District, and Ciracap Sub-District. The method used is a survey method with two stages, the first is the stage of data collection through primary data collection by directly measuring the vessel and the second stage is descriptive analysis. The results showed that the grant fishing vessels have varying gross tonnage sizes with an average of 2,48 GT and 12,24 GT, the size does not match on the vessel certificate.

1. INTRODUCTION

Fishing vessels are one of the fishing units which are the main key in conducting fishing operations. Fishing vessels are useful as transportation that brings all fishing units to the fishing ground and brings back to the fishing base [1]. The perfection of fishing vessels both in terms of design and construction is absolutely necessary because it will affect the success of fishing operations, safety, and comfort while working at the sea. This is based on several considerations including; the purpose of vesselbuilding, water characteristics, and vessel design [2]. The important role of fishing vessels in Indonesia supports the success of fishing operations such that the physical capabilities of vessels need to be considered [3].

Sukabumi Regency is one of the districts that have a large fishery income, the large potential of capture fisheries in Sukabumi Regency must be supported by the presence of an adequate fishing vessel to support fishing operations. In order to increase fishing operations in Sukabumi Regency, KementerianKelautandanPerikanan (KKP) rolled out one of the programs, namely grant fishing vessel for fishermen in the Regency that are members of the Joint Business Group (Ind : KUB). The hope of KKP in the provision of such vessels is to increase the catch of fish so that it can advance the fisheries sector in Sukabumi Regency and improve the welfare of fishermen in Sukabumi Regency. The donated vessels are 3 GT and 10 GT.

Internal factors related to fishing operations are fishing gear capacity, vessel capacity, and operating costs [4]. Therefore information is needed regarding the capacity of the vessel so that fishing operations can run smoothly. Data and information about fishing vessels that are important to know one of them is the size of the vessel. The intended vessel size is gross tonnage (GT). Currently in Indonesia, there are many GT vessel data that are not in accordance with the actual physicality [5]. Gross Tonnage is closely related to capturing fisheries management [6]. Therefore good GT vessel size data is absolutely needed by the government so that the government is right in making decisions in conducting capture fisheries management activities. This research aims to determine the suitability of gross tonnage (GT) size of grant fishing vessels and compare it to the gross tonnage indicated on certificate.

2. METHODS

2.1 Research Location

The research location was carried out in Sukabumi Regency, West Java, with the object of research being a grant fishing vessel by KKP. The selection of research sites is based on where the grant of fishing vessel landed from KKP based in Sukabumi. The vessels are scattered in several 4 coastal districts in Sukabumi Regency, Namely CisolokSub-District, PelabuhanratuSub-District, CiemasSub-District and CiracapSub-District.

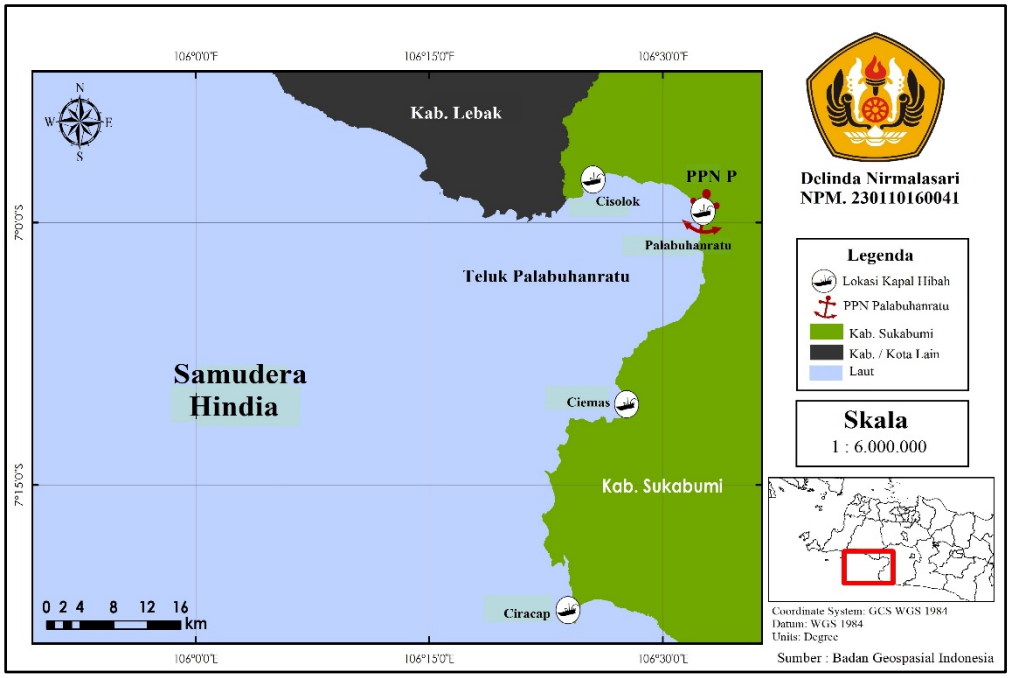

Figure 1. Map of Location Research

2.2 Research Method

This research was conducted by survey method using case studies. The research was conducted in 2 stages, the first stage was primary data collection by directly measuring the dimensions of the vessel consisting of length over all, breadth max, depth, length of the upper building, width of the upper building, and height of the building on the vessel. Secondary data obtained through related data that already exist such as the number of vessels, certificates, logbooks, and vessel measuring letters. The second stage is to do data analysis.

2.3 Data Analyst

Data were analyzed descriptively which will explain the calculation of GT directly in the field and GT stated on the vessel certificate. Calculation of vessel dimensions uses Gross Tonnage (GT) units based on the Decree of the Director-General of Sea Transportation Number PY.67 / 1 / 13-90. Gross tonnage of the vessel is obtained and determined according to the following formula:

$$GT = 0.25 \times V$$

V value is obtained using the following formula:

$$V = V1 + V2$$

Note :
V = the number of contents of the room below the main deck plus the rooms above the top deck that are perfectly closed which are not less than 1 m3 in size.
The volume of the room below the deck in the form of formula is written as follows:

$$V1 = p \times l \times d \times f$$

Note :
p = length value obtained by measuring the horizontal distance between the meeting point of the outer side of the skin of the stomach with the bow and stern.
l = the width value obtained by measuring the horizontal distance between the two outer sides of the skin 1 at the widest part of the axle.
d = inner value obtained by measuring the perpendicular distance in the middle of the width of the widest part of the wire.
f = factor value determined by the shape and type of vessel:

a. 0.85 for vessels with a flat bottom, generally used for barges;
b. 0.70 for vessels with a slightly tilted base from the center to the side of the vessel, generally used for motorfishing vessels;
c. 0.50 for vessels not included in groups a and b, generally used for sailing vessels or motorized sailing vessels.

3. RESULT AND DISCUSSION

There are 79 units of grant fishing vessels from KKP that have been granted from 2017 to 2018 in Sukabumi Regency, 78 units of size 3 GT, and 1 unit of size 10 GT. KKP grant fishing vessels based in Sukabumi Regency are spread over 4 coastal districts in Sukabumi Regency, namely 12 units at CisolokSub-District, 32 units of size 3 GT at and 1 unit of 10 GT at PalabuhanratuSub-District, 12 units at CiemasSub-District and 12 units at CiracapSub-District [7]. The fishing gear used by KKP grant fishing vessel consists of 2 fishing gear, namely gill net and fishing line. Based on the method of operation of the two fishing gear is a static fishing gear or operated when the vessel is stationary. General arrangement of 3 GT and 10 GT KKP grant fishing vessels can be seen in Figures 2 and 3.

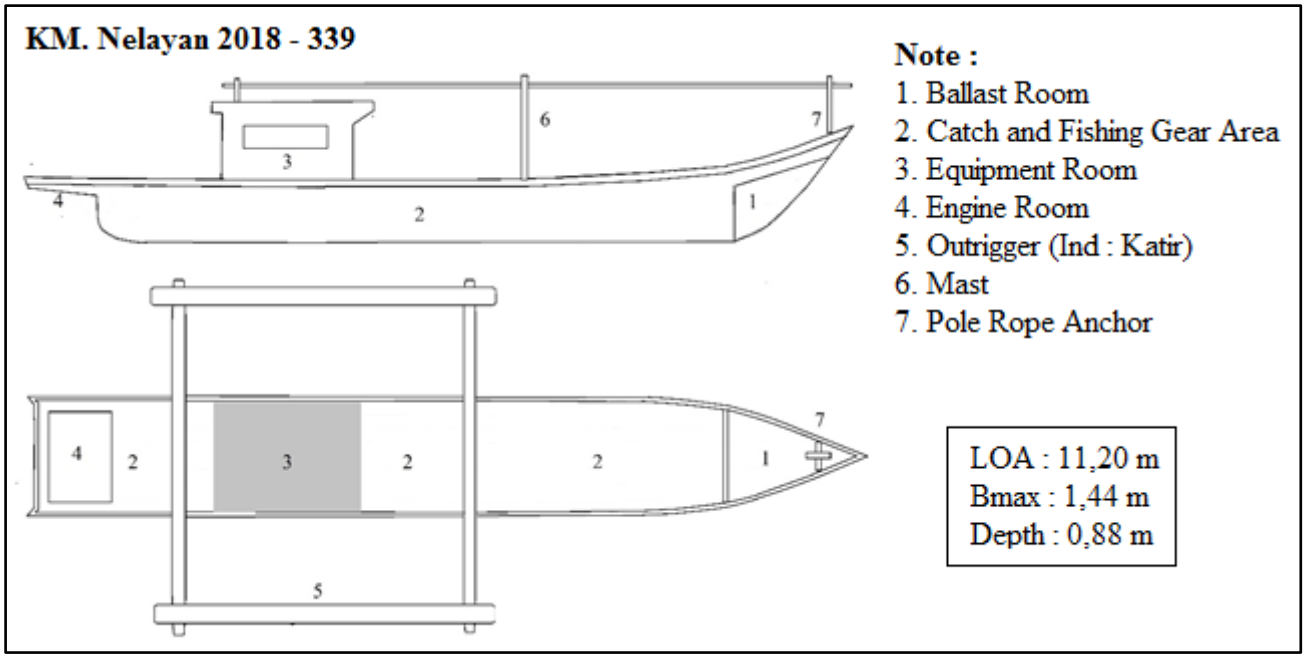

Figure 2. 3 GT of Grant Fishing Vessel

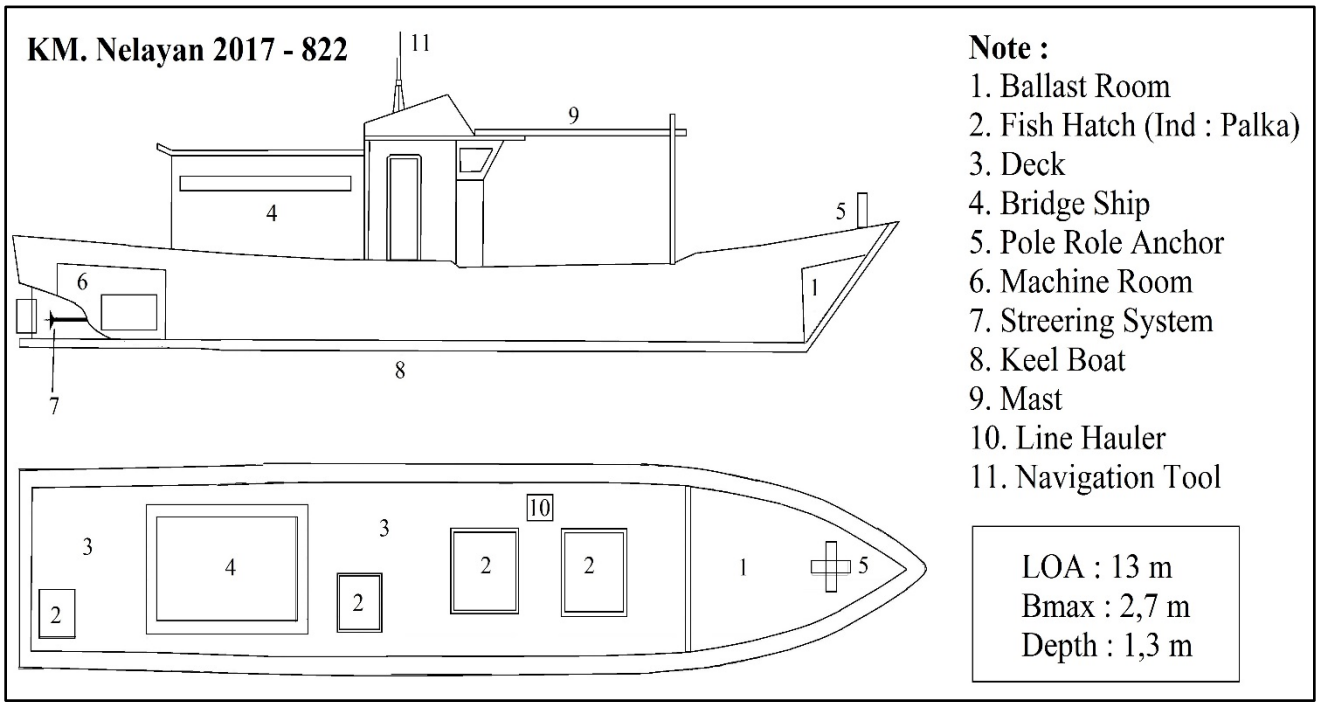

Figure 3. 10 GT of Grant Fishing Vessel

Based on the table above, it is pointed out that the 3 GT KKP grant fishing vessels has an average length of 11,20 m, 1,44 m og breadth maximum, and 0,88 m of depth, while the 10 GT KKP grant fishing vessel has a length of 13 m, breath maximum of 2,7 m, and depth of 1,3 m. The KKP grant fishing vessel was made in Jepara with the base material being mahogany covered with fiberglass. Wood-based vesselbuilding has become a hereditary tradition that has many advantages. The advantages of vesselbuilding with wood materials, namely the supply of wood in Indonesia is quite a lot and the price is economical and affordable [8].

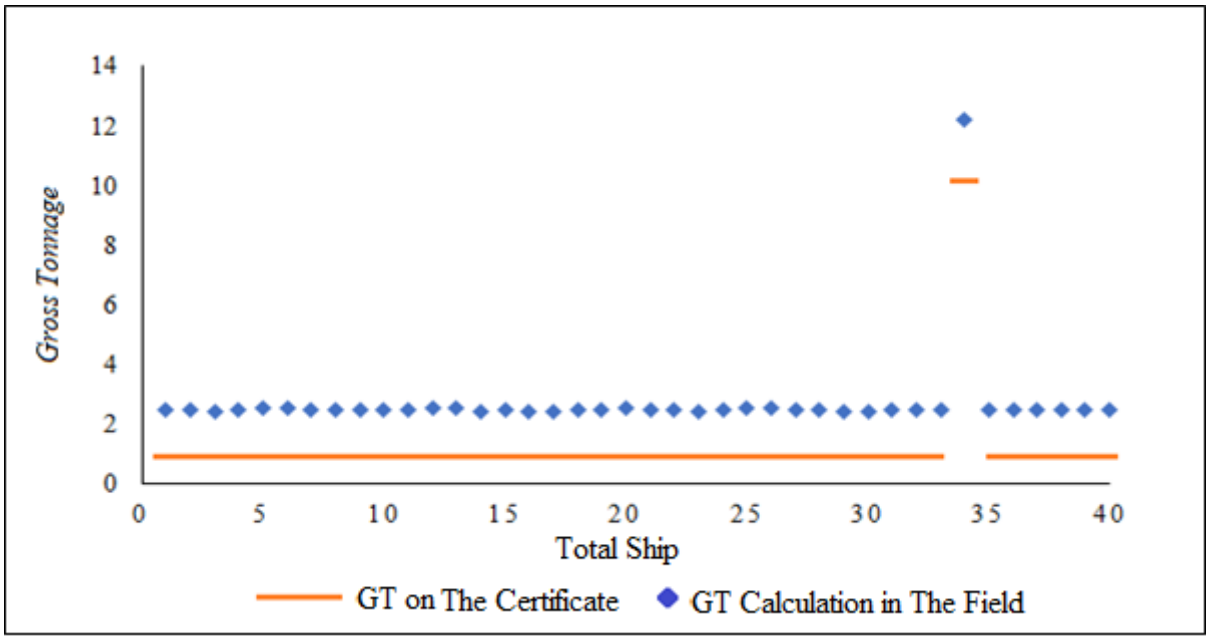

Figure 4. Gross Tonnage of Grant Fishing Vessels

Based on the calculation results obtained that the size of the vessels listed on the vessel's certificate does not match the results of field measurements. Vessel certificate is a document containing information about fishing vessels operated in Indonesia. The size of the GT listed on the certificate is equal to 1 GT. The certificate was made by a vesselyard that makes a grant fishing vessel namely "JelajahInternasional" in Jepara. Based on interviews with DinasKelautandanPerikanan (DPK) of Sukabumi Regency, the size of the GT indicated on the certificate issued by the vesselyard does not follow the calculation of the GT formula of the vessel showing the actual GT size.

The various sizes GT of grant fishing vessels are caused by the vessel being made by traditional vesselyards, besides the variety GT of vessel sizes are also caused by rounding sizes to facilitate the administration process. Traditional vesselbuilding is usually not based on planning and calculation, the vessel building is based on experience gained from generation to generation so that the vesselbuildingis always a chance and has diversity [9]. Vessels to be re-measured are recommended to be on land and weather conditions are calm, in order to minimize errors that occur at the time of measurement [10].

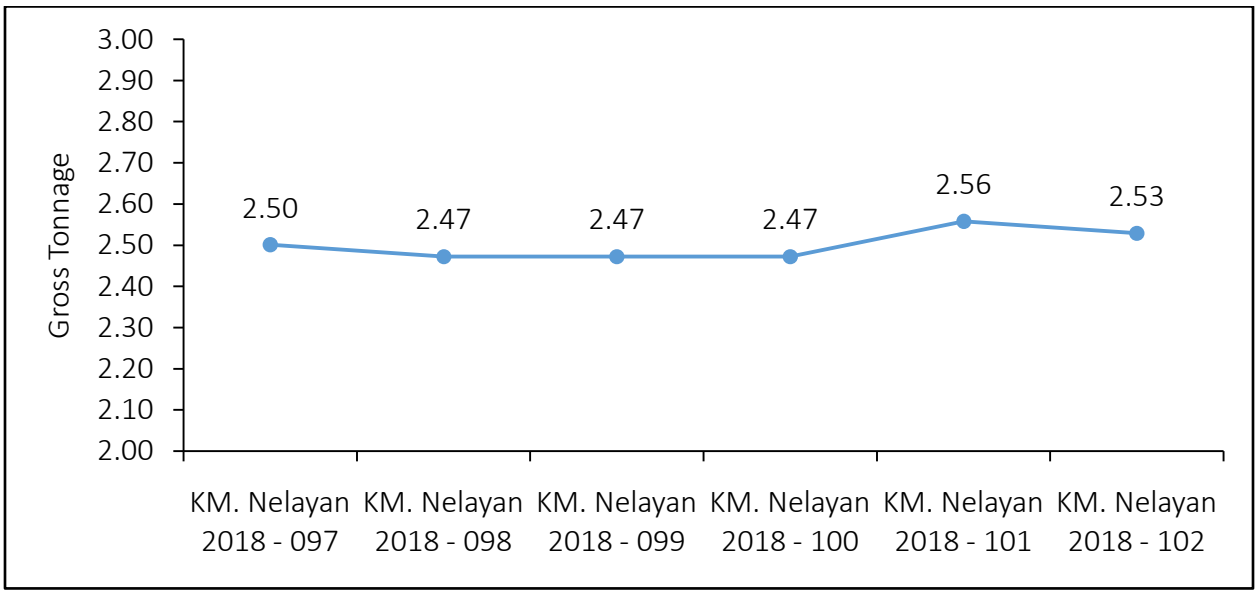

Figure 5. Gross Tonnage of Grant Fishing Vessel in Cisolok Sub-District

Figure 5 shows the GT distribution of KKP grant fishing vessels in CisolokSubdistrict, precisely in Cibangban Beach, a sample of vessels measured was 6 units. The largest GT size is 2,56 GT and the smallest size is 2,47 GT. This size GT of fishing vessel does not match into the certificate

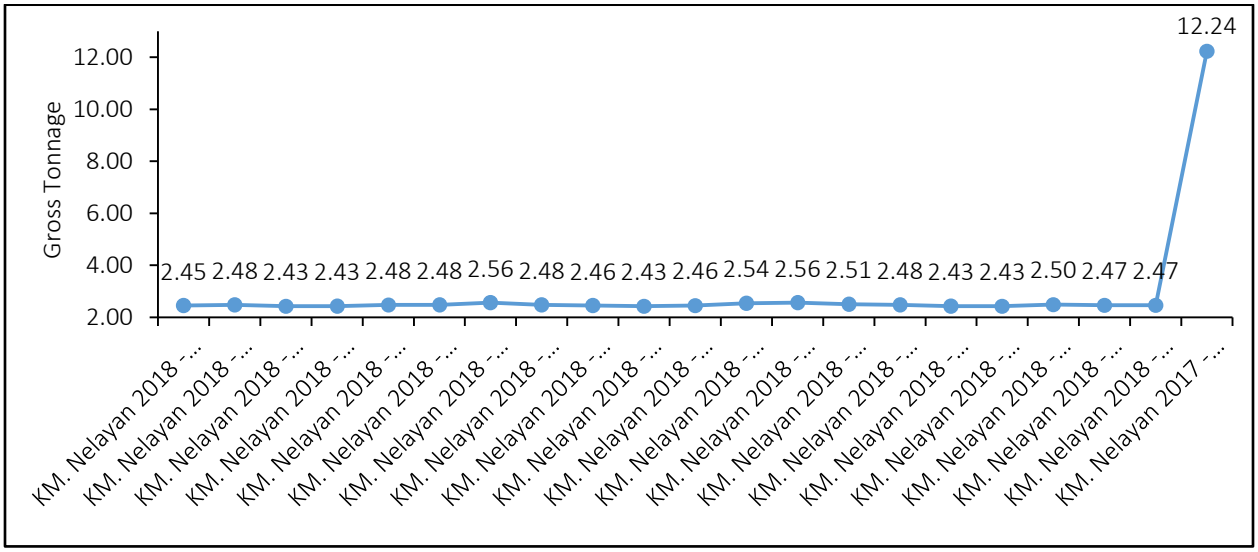

Figure 6. Gross Tonnage of Grant Fishing Vessel in Palabuhanratu Sub-District

Figure 6 shows the GT distribution of grant fishing vessels in PalabuhanratuSubdistrict, the sample of vessels measured was 21 units. 20 vessels measuring 3 GT and 1 vessel measuring 10 GT. Based on the calculation results that refer to Kep. Perla No. PY.67 / 1 / 13-90, 10 GT of grant fishing vessels have a larger size, that size is 12,24 GT. While the small vessels have an average of 2,48 with the largest size of 2,56 GT and the smallest size is 2,43 GT.

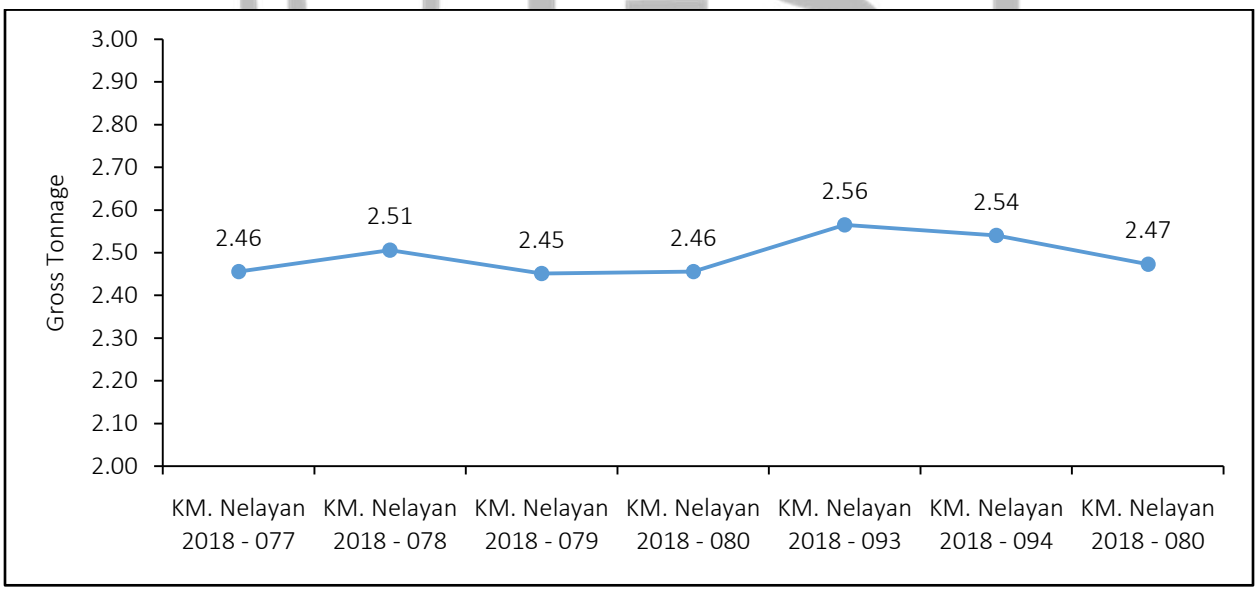

Figure 7. Gross Tonnage of Grant Fishing Vessel in Ciemas Sub-District

Figure 7 shows the GT distribution of grant fishing vessels in CiemasSubdistrict precisely at TPI Ciwaru, the sample of vessels measured is 7 vessels. Based on the graph above the KKP grant fishing vessel has an average size of 2.49 GT with the largest size of 2.56 GT and the smallest size of 2.46 GT the vessel.

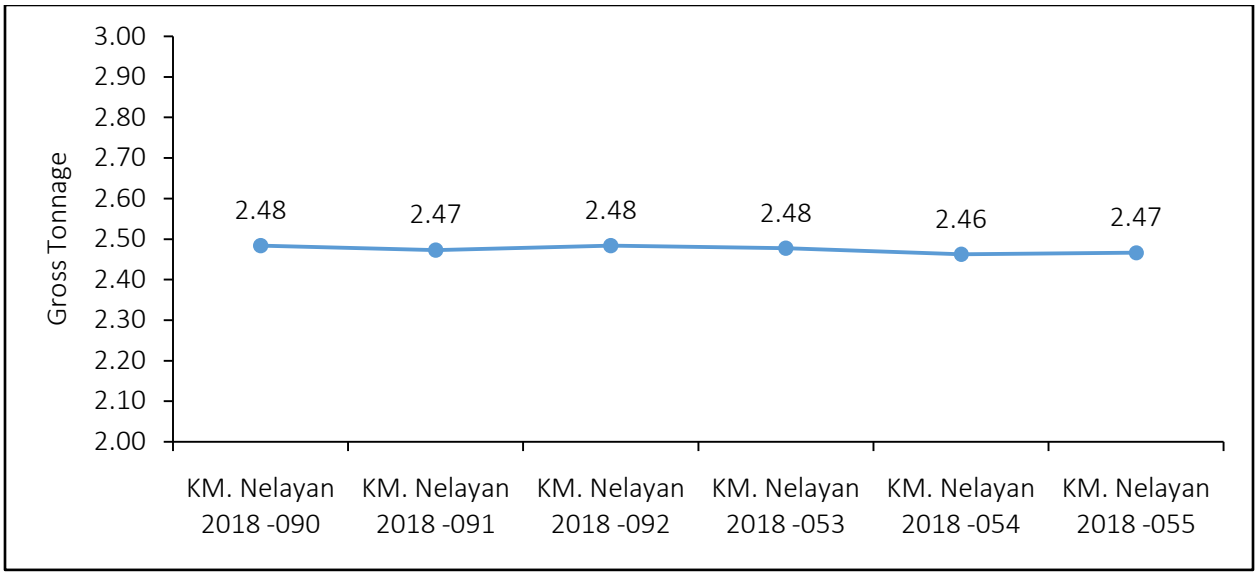

Figure 8. Gross Tonnage of Grant Fishing Vessel in Ciracap Sub-District

Figure 8 shows the GT distribution of grant fishing vessels in Ciracap District, the sample of fishing vessels measured is as many as 6 units of vessels.The average size of KKP grant fishing vessels is 2,47 GT, the highest size is 2,48 GT and the smallest size is 2,46 GT.

The calculation results show that the GT size of the KKP grant fishing vessels listed on the certificate is not in accordance with the calculation based on Decree of the Director-General of Sea Transportation Number PY.67 / 1 / 16-02. Grant fishing vessels of 3 GT size are less than 3 GT, which is an average of 2,48 GT, while grant fishing vessels of size 10 GT have sizes of more than 10 GT, which are 12.24 GT. Likewise with the KKP grant fishing vessel in Pangandaran, the grant fishing vessel 3 GT has a very diverse size but it is not seen vessels that have a size of more than 3 GT, while the grant fishing vessel 5 GT has a size more than 5 GT. This also happens to vessels of 5 GT size because on grant fishing vessels that are subject to 5 GT in calculation requires calculation of the building parts of the vessel so that it has a size of more than 5 GT [11]. Similarly, the 10 GT grant fishing vessel based in Sukabumi Regency involves calculating vessel building so that it has a size more than 10 GT. Differences in vessel GT size are also due tby the use of different Coeficient Blok [10].

4. CONCLUSIONS

The GT size of the KKP grant fishing vesselcalculated by the formula referring to the Decree of the Director-General of Sea Transportation Number PY.67 / 1 / 13-90 does not match the GT size of the vessel listed on a vessel's certificate. The calculation result of a 3 GT size KKP grant fishing vessel has a size less than 3 GT, whereas for vessels with a size of 10 GT it has a GT value of more than 10 GT.

5. ACKNOWLEDGEMENTS

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