



2nd International Symposium on Aquatic Products Processing and Health
ISAPPROSH 2015

Technical and Economic Analysis of Modified *Payang* Fishing Gear in the Fishing Port of Tawang Beach in Kendal District, Indonesia

Trisnani Dwi Hapsari*, Aristi Dian Purnama Fitri

Faculty of Fisheries and Marine Science Diponegoro University, Jalan Prof. H. Soedarto, S.H. - Tembalang Semarang, Indonesia 50275

Abstract

Payang is one of fishing gears that is used to catch some kinds of pelagic fish that live in the top layer of the water and tends to run into the bottom layer of the water when it has been covered by the net. The addition of top window on *Payang* cod end is used for selectivity in order that the fishes with the certain size outside the fishing target can get out through the window when the gear is being operated. The aim of this research was to identify and analyze the composition of fish caught from modified *Payang*, to find out the number of fish escaped from the square mesh cod end and to analyze the economic aspects (Revenue, Cost, Profit, and R/C Ratio) of common *Payang* fishing gear without window and modified *Payang* fishing gear with window. This research used experimental fishing method. The analysis method used were t-test analysis method, percentage breakouts of fish analysis and economic analysis method. The result showed that the fish caught by common *Payang* fishing gear (18 kg) was bigger than the fish caught by modified *Payang* fishing gear (15 kg). The catches was dominated by Trevally Fish. The result of Paired Sample t-test showed that *Payang* with window modification has no effect towards catch result, because it is more than α ($0.396 > 0.05$). The level of Trevally fish breakouts square mesh cod end was 48 %. The revenue from modified *Payang* fishing gear was less than the revenue from common *Payang* fishing gear. The R/C ratio value from both of the fishing business was more than one so they were efficient to be operated continuously.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the science and editorial board of ISAPPROSH 2015

Keywords: Economic; Kendal; window modified *Payang*

* Corresponding author. Tel.: +62 813 2591 4445; fax: +62 24 747 4698.
E-mail address: hapsaritrisnani@gmail.com

1. Introduction

Payang is one of fishing gear that can chase and cover a group of pelagic fish in order that they can get in the *Payang* net. It is operated by circling the group of fish, and then the ship will pull the seine net. Both of its wings are used for scaring or shocking and leading the fish to get into the cod end (Yusfiandayani, 2011).

Most of coastal fishermen in Kendal District rely on *Payang* fishing gear because they believe that it can produce a great number of pelagic fish so it can give more profits to the fishermen who use the kind of gear. The fishes that have been trapped by the *Payang* gear are still alive, so they can be a kind of high commercial fish. Fishermen usually apply the smallest mesh size in the net cod end in order to get the fish as many as possible without regarding on the size of the targeted fish.

Fishing business using *Payang* fishing gear will be overfishing especially for pelagic fish if it is uncontrolled (Zen et al, 2002). To prevent the bad effect, the *Payang* gear is modified by giving side window on the cod end. It is aimed to let the small size and unfit pelagic fishes get out through the window so it can be more profitable to the fishermen for a long-term. Window is woven thread nets with square shape (square mesh) mounted on the side of the net, whether it is the right or the left. This window aims to separate catches between large fish and small-sized fish.

In this research, the *Payang* fishing gear was modified by giving side window on the net cod end because the fishes in the shocked condition would probably move to the side window in the cod end. The cod end was used to accommodate the fish catches. The net cod end in this fishing gear had about 9 m length. The material was made of *waring* with 2 mm mesh size and the side window modification used PE material with 1 in mesh size (in = inch, 1 m is equal to 39.3700787402 in) and 2.54 cm for each side of the square shape size. The square shape of the net on the window will allow small fish can escape without a lot of hurting his body.

The modification in the *Payang* fishing gear can give influence to the fish catches and the fishermen revenue, therefore, the obtained fish caught, the incurred total cost, and the obtained revenue and profits need to be modified and be analyzed.

Related to the problems, this research was aimed to:

- Analyze the fish caught difference between common *Payang* and modified *Payang*.
- To find out the number of fish that escaped from the square mesh cod end.

Analyze the economic aspect (Revenue, Cost, Profits and R/C Ratio) of genuine *Payang* and modified *Payang*.

2. Material and methods

The method used in this research was experimental fishing that was conducted by trying to operate the *Payang* fishing gear with additional side windows modification for gear selectivity and to operate common *Payang* fishing gear. This research compared between the common *Payang* fishing gear used this far and the new modified *Payang* fishing gear. The method of election of the respondents using a purposive sampling method. Respondents selected are fishermen who are willing to work together to put into practice these modifications with the addition of side window.

The sampling point method in this research was simple sampling method. The sample needed in this research were eight samples for genuine *Payang* and eight samples for side windows modified *Payang*, so the total amount were 16 samples. The data from departure point to sampling point (latitude and longitude position) were saved in GPS so the direction and grooves taken from the departure to the fishing area could be seen in GPS monitor. The data analysis methods used in this research were mentioned as follow:

- Comparison of the Number of Fish Escaped from the Square Mesh Cod End

The number of fish that escaped from the square mesh cod end during the research were noted and then compared to the total number of catches. The comparison was done to get the information the number of fish escaped and the total number of catches.

$$\text{Percentage breakouts} = \frac{\text{fish that escaped from the square mesh cod end}}{\text{the number of fish in the treatment}} \times 100 \% \quad (1)$$

Download English Version:

<https://daneshyari.com/en/article/4383618>

Download Persian Version:

<https://daneshyari.com/article/4383618>

[Daneshyari.com](https://daneshyari.com)