ABSTRACT

ANALYSIS THE EFFECT OF MEDIUM PROPAGATION LIGHT INTENSITY LACUBA (Submersible Underwater Light)

By

FERDI SETIAWAN

Light is a very important factor in the process of catching fish at night. Fish with *fototaksis*is highly dependent on the intensity of light produced by a light source. The light source commonly used by fishermen is very expensive and equipped by a single light. While each type of fish has a level of sensitivity to light of different colors. Given these problems, the researcher designed a tool named Lacuba (Submersible Underwater Lights) more effective and efficient to increase the income of fishermen.

Because of the fish can distinguish the color of light and will tend to like the particular color of light, the researcher created Lacuba in five kinds of colors : white, red, green, yellow, and blue . The Lacuba will be experimented into three propagation medium for checking itslight intensity. The three propagation medium selected werethe air, the fresh water (PDAM), and the sea water from Queen Artha Beach. The study was conducted by observing changes in light intensity of Lacuba by changing the thickness or distance of medium level.

The result showed that the changing of the medium level is effected the light intensity in each color of Lacuba. The Researcher found there was a linear relation between the intensity of light with the thickness of medium level with coefficientcorrelation value of 0.968. The result also showed that the decrease of light intensity value was greater in the sea water for 0.89 Lux/cm, while the air was lesser for 0.86 Lux/cm. Shortage of power required in sea water was at 14.6 % compared to when Lacuba was in freshwater (PDAM).

Key words : Light, Medium, Propagation, Fish, Light Intensity, Lacuba, Aquarium