DEVELOPMENT OF TUNA FISHERIES MANAGEMENT STRATEGIES FOR THE SOUTHERN COAST OF JAVA: AN APPLICATION OF INTERPRETATIVE STRUCTURAL MODELING

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ABSTRACT

Territorial waters of South Java is part of fisheries management zone of Indian Ocean Fisheries, has a potential tuna fish resources. The purpose of this research was to formulate strategy for the efficacy of model implementation of tuna fisheries development in South Coast of Java. Interpretative structural modeling technique was used the study. The method was considered a technique of strategic planning of which describes comprehensively condition of the system. Result showed that there were seven element of system require for succeeding implementation of model. The seven element of system and their key element are affected society sector, tuna entrepreneur, required factor, the availability of tuna resources and the availability of data and information, the main constraint of program development, high gasoline price, limited of financial capital and low priority of development fund, the main purpose of program: exploiting optimization of tuna resources; the indicator of the efficacy program: increasing the earn of tuna fishery and improvement of labor absorption; the activity needed to execute the program: making plan work activity; and institution in concerned for the efficacy program: Ministry of Marine Affairs and Fisheries.

KEYWORDS: **fisheries management, interpretative structural modeling, tuna, South Coast of Java**

INTRODUCTION

South Java territorial waters is part of fisheries management zone of Indian Ocean with potential tuna resources potency, especially bigeye tuna (*Thunnus obesus*) and yellowfin tuna (*Thunnus albacares*). The potency of tuna resources in this territorial is not yet determined. The Indian Ocean Tuna Commission Working Party on Tropical Tuna (2009) described that catch rate big eye tuna in Indian Ocean continuously decreased from around 9,0 in 1960 to 3,2 in 2002 when it has increased to about 4,4; about the same level as that in the late 1990s, decreased to 2,3 in 2003 and increased to 3,0 in 2004. Meanwhile catch per unit of effort yellowfin tuna continuously decreased from around 28,7 in 1960 to 10,5 in 1972, and was kept at approximately the same level until 1988, thereafter it declined to about 4,5 in 1994 and has remained at his low level with fluctuations between 3,3 and 4,6 until 2006, was much lower 3,0 in 2007 (http://www. Iotc.org/files/proceedings/2009/wptt/IOTC). It seems that tuna fisheries in Indian Ocean is on fully exploited. Because of that, development of tuna fisheries in South Coast of Java should be more emphasize to management of tuna fisheries according to sustainability.

Nurani *et al.* (2008) developed a SIMPENA model of tuna fisheries in South Coast of Java, which focused on development of tuna fisheries in small scale with gross tonnage of fishing vessel less than 150 GT. Development of tuna fisheries in south coast of Java will be succeeded, if the existing subsystem which business, port, and instituton subsystem could be function well (Figure 1). The model was resulted through research by system approach method. The model recommended several thing, that are development conducted by means of build industrial scale of tuna fisheries business; support by fishing port with international standard; applying good handling practices and standard sanitation operational procedure on fishing vessel and fishing port; recommended as the basis of tuna fisheries are Cilacap and Pelabuhan Ratu fishing port, with 170 units of long line fishing vessel; and integrated management institution should be formed to integrate manage tuna resources, which accommodate the need between province and sub province, and also between stakeholder.

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