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## The Economic of Marine Sector in Indonesia

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### Abstract

The paper investigates the role of the marine sector into Indonesian economy. This study found that the output from this sector supports approximately 7.86 % to the economy. Marine sector contributes about 6.06 % to the community income and 4.12 % to the workforce. In terms of NTB, this sector is estimated to support approximately 6.64 % to the total national economy by 2010. It is suggested that fisheries, marine industry, marine infrastructure and marine services are key sectors that are very potential to be developed.

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## Nomenclature

GDP	gross domestic products
IO Table	input output table
UPI	<i>unit pemrosesan ikan</i> (fish processing unit)
NTB	<i>nilai tambah bruto</i> (gross value added)

## 1. Introduction

Indonesia is a maritime country that has the largest sea area and number of islands in the world. It has approximately  $17 \times 10^3$  islands scattered in the archipelago region. Having a huge region, Indonesia has the economic potential of both biological and non-biological in the maritime sector. Indeed, nearly 65 % of the Indonesia populations live in coastal and marine areas (Wiryawan et al., 1999; Ministry of Environment, 2007). Therefore, the marine sector should be maintained and developed for the country prosperity.

## 2. Study objectives and method

This paper investigates the contribution of the maritime sector in the national economy. It also analyzes the economic impact of the development of the maritime sector to the national economy. In this paper, the contribution of the maritime sector was measured by identifying the sector output and measuring the contribution of this sector to the community income, workforce and national economy (GDP).

This study uses Input Output Table 2010 obtained from Central Statistics Agency. It is common to use of the Input Output Table in marine sectors and measuring its impact to the national economy. For instance, Lee and Yoo (2014) analyze the role of the capture fisheries and aqua culture sectors in Korea while Morrissey and O'Donoghue (2013) investigate the role of the marine sector in the Irish economy.

In Indonesia, IO models have been widely used to investigate the linkages among production sectors in an economy. Arief and Sasono (1981) initiated to use the model to examine key sectors in the Indonesian economy. Muchdie and Imansyah (1995) performed a linkage analysis in the selected sectors in the Indonesian economy. Furthermore, there are recent studies employing IO table. Kuswardhani et al. (2013) compare the energy input output and perform financial analysis of greenhouse and open field vegetables production in West Java. Zuhdi et al. (2015) estimate the dynamic of output of livestock in Indonesia. Rohman and Bohlin (2014) analyze the telecommunication sector in Indonesia. Katos et al. (2015) investigate poverty, labor and trade liberalization in Indonesia.

Linkage index analysis was originally developed by Rasmussen (1957) and Hirschman (1958). The analysis is intended to see the linkages among sectors, particularly to determine the strategy of development policies. Then, the analysis was extended by Cella (1984), Clements (1990), and Clements and Rossi (1991). There are two types of connection: (i) backward linkages which is a reference to the raw material and calculated according to the column, and (ii) forward linkages which is a reference to the sale of finished goods and is calculated according to the line.

## 3. Overview of marine sector in Indonesia

Marine sector has a strategic role in the Indonesian economy. This sector has high potential to be developed.

### 3.1. Fishery sector

Indonesian waters have the big potential for fishery. There are potential of fisheries in Indonesia, like large pelagic, small pelagic, demersal fish, shrimps, reef fish, lobster, and squid. Indeed, the potential of pelagic fish in Indonesia is the most promising one and evenly spread throughout Indonesia. According to Ministry of Marine and Fishery (Ministry of Marine and Fisheries, 2011), detailed information relating to the resource potential of Fish most by Regional Fisheries Management (WPP) are as follows: (i) WPP 571 / waterway has the greatest potential Small

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