ANALYSIS OF DEVELOPMENT TRENDS OF THE FISHERY PROCESSING INDUSTRY IN WEST JAVA PROVINCE

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ABSTRACT

The fisheries sector is an excellent sector in Indonesia that can provide a considerable contribution to the community so that it can improve the regional and national economy such as West Java Province in the fishery processing sector which has advantages in each region and can lead to a development trend. Trends show that there is a change in the value of the variable population change, technology change, and productivity change. This study aims to analysis the trend of the development of the fisheries processing industry in West Java Province from 2010 to 2018. This research was conducted at the Marine and Fisheries Service of West Java Province in January 2021 - July 2021. The method used in this study was the method literature survey for determine the trend of the development of the fishery processing industry in 24 districts/cities in West Java Province. After all the data is processed, the data will be analysis descriptively. The secondary data used are the variables of human resources, facilities and infrastructure, production and application of science and technology sourced from statistical data from the Department of Marine Affairs and Fisheries of West Java Province from 2010 to 2018. The following are the results of the research obtained showing that the development of the fishery product processing industry in the district/city in West Java Province experienced fluctuating changes during 2010 to 2018.

Keywords : Fishery Processing Industry, West Java, Trends.

1. INTRODUCTION

According to the 2018 Geospatial Information Agency on the West Java[1] administrative map, the province of West Java has a coastline of 832.69 km (Source: Map of zoning plans for coastal areas and small islands of West Java Province). Based on marine management authority 0-12 miles, the sea area of West Java Province is 15.528,90 km2 and has 19 small islands[2]. Based on the above statement, the West Java Province in the fisheries sector has suitable land for the capture fisheries sector and aquaculture that can support the fisheries processing industry sector.

West Java Province administratively the government is divided into 27 regency/city, covering 18 regencys namely Bogor Regency, Sukabumi, Cianjur, Bandung, Garut, Tasikmalaya, Ciamis, Pangandaran, Kuningan, Cirebon, Majalengka, Sumedang, Indramayu, Subang, Purwakarta, Karawang, Bekasi, and Bandung Barat Regency and 9 city of Bogor City, Sukabumi, Bandung, Cirebon, Bekasi, Depok, Cimahi, Tasikmalaya, and Banjar City. West Java Province consists of 627 regency, 641 villages, and 5.321 villages[2].

West Java Province has potential for economic growth in the marine and fisheries sector, especially in development of processing fisheries industry. Processing fisheries industry in West Java experiencing continuous additions in variety and processed type. According to the Department of Maritime Affairs and Fisheries in 2015[3], more than 2.000 certificates were launched by the Center for various types of processed fishery products on a large and small scale, including fish products for export. Types of fish processing in West Java Province there are 10 types, namely fermentation, pulverization, fresh product, canning, smoking, salting, other processing and reduction.

Marine and Fisheries Industrialization is the process of change in the production system of marine and fishery resources, through a modernization process supported by an integrated economic policy between macroeconomic policies, infrastructure development, business and investment system, science and technology and human resources for the welfare of the people[4]. The head of the Department marine and fisheries in 2014 Djafar Ismail said that large scale fishery processing industry are located in Depok, Bekasi, Karawang and Bogor areas. These three areas have a weakness, namely they still rely on imported fish supplies due to their location close to the port in DKI Jakarta.

Trend is a tendency or tendency of a company's condition in the future that will increase, decrease or in a fixed state[5]. Results that have large or small changes depend on the factors that influence them and the time series used based on certain variables. Based on this statement, it can be defined that trend analysis is an analysis that can describe or show the average change of a certain variable from time to time. If the results obtained experience a change in which the average variable decreases in value, it is called a negative trend. On the other hand, if the change averages an increase in value, it is called a positive trend[6]. The purpose of this trend analysis is to find out the occurrence of developments through the past time span and to project the current situation into the future.

2. RESEARCH METHOD

This research was conducted at the Maritime Affairs and Fisheries Office of West Java Province in January 2021 – July 2021 which aims to analyze the development trend of processing fisheries industry in West Java Province. The method used in this research is a method survey literature to determine the trend of developing fishery product processing industry in 18 districts and 9 city in West Java Province. The data uses secondary data which is realized in the form of numbers and analyzed using descriptive statistics. Used to secondary data was obtained from statistical data from Department of Marine and Fisheries of West Java Province.

2.1 DATA TYPES AND SOURCES

The data used in this research consists of secondary. Secondary data consists of three types of data sourced from the Department of Marine Affairs and Fisheries of West Java Province (Table 1).

Table 1. Types of Data and Research Data Sources

No.	Types of Data	Sources
1.	Total manpower users of fishery processing industry facilities (person).	Department of Marine Affairs and Fisheries of West Java Province
2.	Total of Fish Processing Units (UPI) fish processing industry (units).	Department of Marine Affairs and Fisheries of West Java Province
3.	Total Production of fishery processing industry from 10 types of processing (tons).	Department of Marine Affairs and Fisheries of West Java Province

2.2 METHOD OF COLLECTING DATA

The method used in the research is a literature survey. The data obtained will be used in the form of secondary data which is realized in the form of numbers and analyzed using descriptive statistical methods. This research uses time series data from 2010 to 2018.

2.3 DATA ANALYSIS METHOD

Data analysis was performed by using qualitative descriptive analysis. Qualitative descriptive analysis in this study is intended to obtain the development trend of fish processing industry in the Regency/City of West Java Province.

1. Determine the variable and indicator including human resources, facilities and infrastructure, production, the application of science and technology for fish processing industry. The stage of the research is to take secondary data on statistical data of fish processing industry in West Java Province from 2010-2018. The data used for this development index uses 2011, 2014, 2018 and previous year's data.

2. Calculate development index in regency/city of West Java Province uses the development index formula uses the development index formula used according to the Annual Fisheries Index book by the Province 2006 – 2009[7]. The development index calculated is :

    a. Fishery Processing Industry Production Development Index

$$IPPijk = \frac{Qijk}{Qijkl} \; x \; 100$$

      Information :
      IPP   : Fishery Processing Industry Production Development Index
      Q   : Production Volume (ton)
      i   : Regency i (i = 1, ... , 27)
      j   : Types of Fisheries Classification
      k   : Period of Time
      kl   : 1 years prior to the period of time

    b. Fishery Processing Industry Human Resources Development Index

$$IPNijk = \frac{Nijk}{Nijkl} \; x \; 100$$

      Information :
      IPN   : Fishery Processing Industry Human Resources Development Index
      N   : Total of labor (person)
      i   : Regency i (i = 1, ... , 27)
      j   : Types of Fisheries Classification

k   : Period of Time
kl   : 1 years prior to the period of time

c. Fishery Processing Industry Production Facilities Development Index.

$$IPSijk = \frac{Sijk}{Sijkl} \; x \; 100$$

Information :
IPS   : Fishery Processing Industry Production Facilities Development Index.
S   : Fishery Production Facilities (units)
i   : Regency i (i = 1, ... , 27)
j   : Types of Fisheries Classification
k   : Period of Time
kl   : 1 years prior to the period of time

d. Production Productivity per Labor Development Index

$$IPPTijk = \frac{Qnijk}{Qnijkl} \; x \; 100$$

Information :
IPPT   : Production Productivity per Labor Development Index
Qn   : Production is divided labor (tons/person).
i   : Regency i (i = 1, ... , 27)
j   : Types of Fisheries Classification
k   : Period of Time
kl   : 1 years prior to the period of time

3. RESULT AND DISCUSSION

The development of the fishery processing industry in West Java during the period 2010-2018 experienced fluctuating changes. The development of production in several district/city in West Java is not very consistent, when production increases it is not supported by human resoure not increase significantly. This can be seen when the development of tends production and application of science and technology to increase. Facilities and infrastructure, production, and application of science and technology fluctuated during the 2010-2018 period, while human resourse did not change during the 2010-2018 period due to data availability.

a.   Human Resource Trend Development Index

The development index data used in based on variable of human resources in the fishery processing industry in the West Java Province during the period 2010 – 2018. Human resource development index on labor variables in the West Java Province (Figure 1).
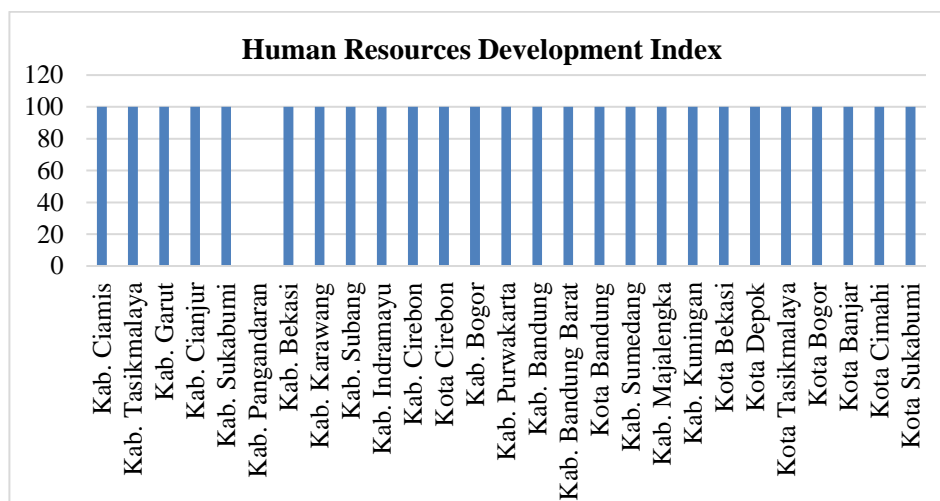
Figure 1. Development Index of Fisheries Processing Industry Human Resources in West Java Province

Based on the graph above, it shows that the labor development index in the regency/city in West Java Province in 2010-2018 generally did not increase or decrease or it could be said to be in a stable condition with a development index value of 100. This was due to limitations. data obtained from the Department of Fisheries and Fisheries of West Java Province. This is different from the case in Pangandaran Regency which is not comparable to other regency/city with a development index value of 0. Pangandaran Regency is a newly formed regency based on Law Number 21 of 2012 so that it has an influence on the human resource development index and only new data are available in 2015[8].

b.   Facilities and Infrastructure Trend Development Index

The development index data used is based on variable of facilities and infrastructure in the fishery processing industry in the West Java Province during the period 2010-2018. The calculation of the development index is only carried out in 2012, 2015, and 2018. The index of development of facilities and infrastructure on the variable fish processing unit in West Java Province has decreased or increased (Figure 2).
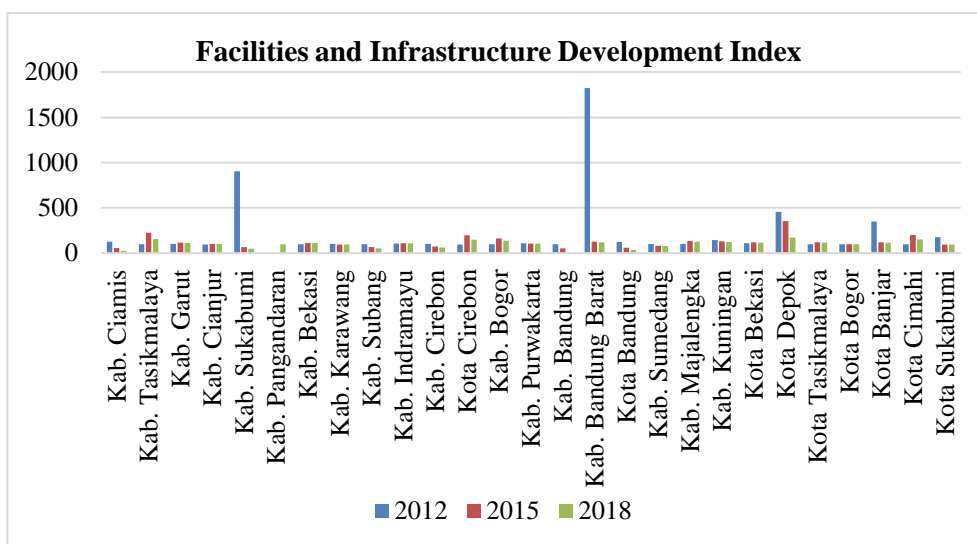

Figure 2. Development Index of Fisheries Processing Industry Facilities and Infrastructure in West Java Province

The diagram obtained based on the development index formula above can be seen that from 2012–2018 it decreased almost evenly in regency/city in West Java Province. West Bandung Regency experienced a fairly extreme decline as in 2012 with an index value of 1,825 and then continued to decline until 2018. The development index value of West Bandung Regency in 2015 was 126 while in 2018 it was 120. This result was influenced by the number of facilities. and infrastructure in that year and the previous year. The number of high and low facilities and infrastructure will affect the development index value obtained.

Pangandaran Regency has an increasing trend of facilities and infrastructure development, but the increase occurred in 2018. The Pangandaran Regency development index value in 2012 - 2015 was worth 0 and experienced development in 2018 which was worth 100. This is because Pangandaran Regency which is a new district in West Java Province and only became an independent district in 2015 so that the development index value before that was 0.

c.   Production Trend Development Index

The development index data used is based on variable of production in the fishery processing industry in the West Java Province during the period 2010-2018. The calculation of the development index is only carried out in 2011, 2014, and 2018. The production development index in the Province of West Java has decreased of increased every year (Figure 3).
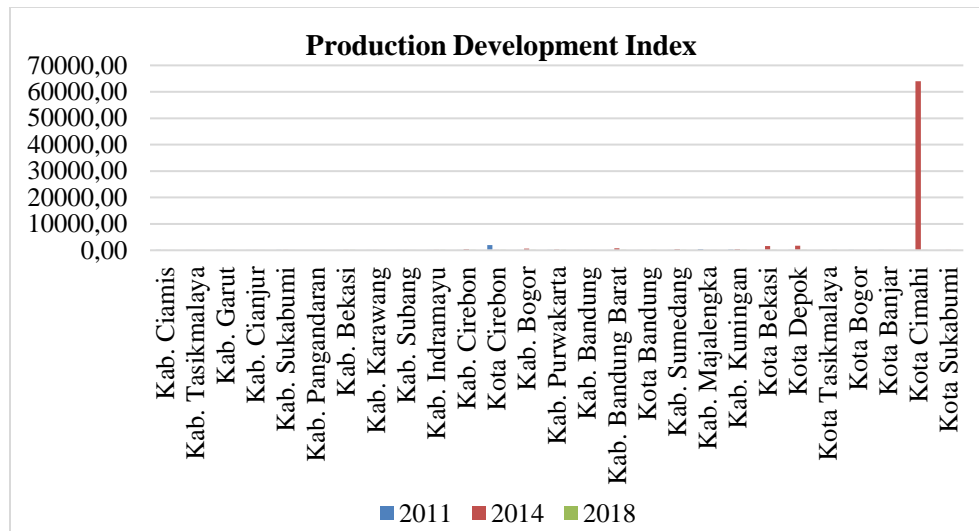
Figure 3. Production Development Index of Fishery Processing Industry in West Java Province

The diagram obtained based on the development index formula above can be seen that from 2011 – 2018 regency/city in West Java Province have increased or decreased evenly. The trend of the Cimahi City development index in 2014 experienced a very extreme increase from the previous year, namely 2011 and in 2018 it decreased again. The index value of the development of the variable of production in 2011 reached 50, while in 2014 it experienced a significant increase, reaching the value of 64,017, and decreased again in 2018 with an index value of 199. This was due to the high production volume in 2014. which reached 52,968 tons while in the previous year, 2013 the amount of production produced only slightly reached 14,645 tons.

Pangandaran Regency has a production development trend which has increased in 2018 with a development index value of 100, while in 2012 - 2015 it is worth 0. This is because Pangandaran Regency, which is a new district in West Java Province and has only become an independent district in 2015 so that the development index value before that was 0.

Cirebon City in the trend of production development in 2011 the value of the development index occupies the highest value reaching 2007,10 and then continues to decline until 2018. The value of the production development index in 2014 touched the value of 168 and in 2018 it fell back to 140. The results obtained are influenced by the amount of production in that years and the previous years. The amount of high or low production will affect the value of the development index obtained.

d.   Application of Science and Technology Trend Development Index

The development index data used is based on variable of production productivity in the fishery processing industry in the West Java Province during the period 2010-2018. The calculation of the development index was only carried out in 2011, 2014, and 2018. The production development index in West Java Province   has   decreased or increased every year (Figure 4).
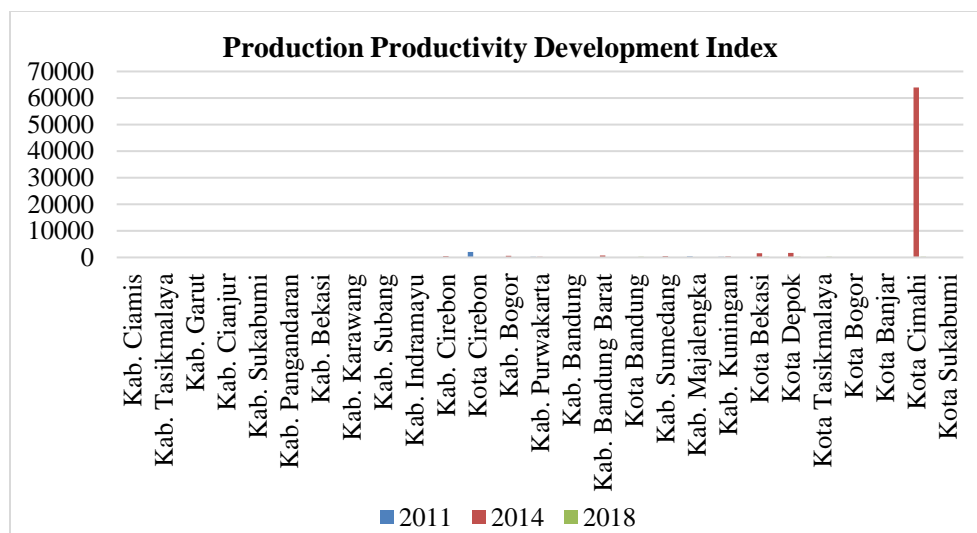
Figure 4. Development Index of Fisheries Processing Industry Production Productivity in West Java Province

The diagram obtained is based on the development index formula from 2011 – 2018 regency/city in West Java Province have increased or decreased evenly. The results obtained from the production productivity development index per worker are not much different from the results of the previous production development index. This is because it has a close relationship, namely the data used in productivity comes from production data and human resource data.

The trend of the Cimahi city development index in 2014 experienced a very extreme increase from the previous year. Namely 2011 and in 2018 it decreased again. The development index value of the variable of production productivity per worker in 2011 reached 50, while in 2014 it experienced a significant increase, reaching the value of 64,017, and decreased again in 2018 with an index value of 199.

The city of Cirebon has a trend of production productivity development per worker which has decreased quite to an extreme level, such as in 2011 the development index value reached 2007 and then decreased continuously until 2018. Index value of the development of production productivity per worker in the Cirebon City in 2014 touched the value of 168 and in 2018 it fell again to 140.

4.   Conclusion

Based on the results of research that has been done, it can be concluded that the index of the development of the fishery processing industry in the regency/city of the Province of West Java based on aspects of human resources, facilities and infrastructure, production, and the application of science and technology which experienced fluctuating changes from 2010 to 2018.

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