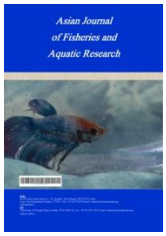

Asian Journal of Fisheries and Aquatic Research

17(6): 22-32, 2022; Article no.AJFAR.88315
ISSN: 2582-3760

Analysis of the Role of Fisheries Sector in Regional Development of Garut Regency of West Java

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJFAR/2022/v17i630421

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/88315

Original Research Article

Received 05 June 2022
Accepted 20 June 2022
Published 24 June 2022

ABSTRACT

This study aims to analyze the contribution of the fisheries sector to the Gross Regional Domestic Product (GDP), to analyze the extent to which market demand is related to the fishery sector's products, and to analyze the strength of the base and non-base sectors of the fisheries sector in the region. Development in Garut Regency. The method used in this study is a quantitative descriptive method using secondary time series data, which is then analyzed using descriptive statistics, and a qualitative method using primary data obtained through direct interviews with parties involved in the fisheries sector. This research consists of two types of data: primary and secondary data. The data were analyzed by Shift share analysis, location quotient (LQ) analysis, Localization index (LI) analysis, and specialization index (SI). Calculation of the economic growth rate in the region using LQ, LI, and SI (the LQ average is 1,91 (>1) which means that the Garut Regency fishery sector is an economic base sector that can meet the needs of fishery products in its area and has the potential to carry out export activities the LI average is 0,00 meaning that the fishery sector is dispersed in West Java Province and has not become the focus of excellence in Garut Regency. and the SI average is 0,00 indicates that the fisheries sector is essential but not specialized in the economic sector in Garut Regency. The result of the shift-share analysis suggests that the fisheries sector is a progressive sector but uncompetitive.

Keywords: Economic basis; economic growth; the fisheries sector; shift-share; location quotient.

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1. INTRODUCTION

Indonesia is a country that has abundant marine resource potential. The prospect of marine resources in Indonesia really needs to be developed optimally in enhancing regional development. Regional development is intended to advance economic growth and regional competitiveness as well as reduce inequality between regions and develop people's lives [1].

The maritime and fisheries sector in several District have been developing intensively through appropriate measures. This sector will fabricate a largeproduction value and can be utilized for the economic progress of the community in District development in Indonesia. Large production values can be used to make maximum contributions to regional development [2].

The leading sector is a sector that has a comparative advantage and competitive advantage with similar sector products from other regions and provides excellent value for benefits [3]. An area will have a leading sector if the region can compete in the same sector with other regions to produce exports [4].

Garut Regency is one of the regencies in West Java that has potential for freshwater aquaculture, covering an area of 26,000 hectares, including aquaculture fishery for ponds, running water system and mina padi [5]. The potential for aquaculture includes aquaculture with an area of 1000 ha and the potential for public waters such as lakes/swamps covering an area of 258 ha and rivers along 1,290.29 km [6].

The production of fresh fish consumption in Garut Regency in 2017 originating from Pond aquaculture reached 44,633.85 tons, running water system amounted to 798 tons, Mina Padi amounted to 13,182 tons, and aquaculture ponds amounted to 357 tons [7].

It is recorded in the GRDP of Garut Regency data that the fisheries sub-sector contributes to the economic development of Garut Regency. In 2017, the fisheries sub-sector contributed 46,026,942.20 million rupiah. This figure is the largest contribution of the fisheries sub-sector to the district's GRDP during one year [8].

The great potential has not been able to determine the role of the large fisheries sector and has an impact on regional development [9]. Based on this, the considerable fishery potential in Garut Regency has not made the sector a base sector that impacts regional development in Garut Regency. Therefore, it is necessary to analyze the role of the fishery sector in regional development in the Garut Regency.

2. METHODS

Research on the analysis of the role fishery sector in regional development of garut regency was conducted in Garut Regency, West Java Province. The research method used is descriptive quantitative. Quantitative research can also be interpreted as a method for examining certain samples, sampling techniques are generally carried out randomly, data collection using research instruments, quantitative or statistical data analysis with the aim of testing predetermined hypotheses [10].

2.1 Data Analysis

Analysis of the data used in this research is descriptive quantitative. The quantitative analysis used the analysis with the method of regional advantage and economic growth in a region including:

2.1.1 Analysis of Location Quotient (LQ)

Location Quotient (LQ) analysis is an analysis used to determine the magnitude of the role of business sectors in regional development. According to [11], the material formula used in the LQ method to compare the capabilities of the sectors of the region is as follows:

$$LQ = \frac{\frac{Xij}{Xi}}{\frac{X.j}{X..}}$$

Where:

Xij = GRDP sector i value at the district / city level
Xi = Total GRDP at the district / city level
X.j = GRDP sector i value at the provincial level
X. = Total GRDP at the provincial level

If LQ> 1, then the sector is classified as an economic base, where the results can meet the needs of the local area and are exported outside the region. If LQ = 1, then the sector is classified as a non-economic basis, where the sector does not have export power that can only meet the needs of the local area. If LQ <1, then the sector is classified as a non-economic basis, where the

sector is unable to meet the needs of the local area and must import from outside the region.

2.1.2 Analysis of localization index

Localization Index analysis is an analytical technique to show an activity that develops in an area (dispersion) or is relatively developed only in certain areas (localization concentration). This analysis is used to complete the LQ analysis. LI analysis can be formulated as follows [12]:

$$LIj = ½ \sum_{l=1}^{n} \{\left|\frac{xij}{xj} - \frac{xi}{x..}\right|\}$$

Where:

LIj : Li value of fisheries sector total area
Xij : GRDP of the fisheries sector in Garut Regency
Xi : GRDP of all sectors in Garut Regency
Xj : GRDP of the fisheries sector in West Java Province
X.. : GRDP of all sectors in West Java Province

If the results of the analysis are close to a value of 0, it means that the level of development of relative activities in all regions (dispersed), while the results of the analysis have a value close to 1, which means that the activities observed are developing in a concentrated manner (concentrated) [12].

2.1.3 Analysis of specialization index

Specialization index analysis has almost the same function as LI analysis, namely as a complementary analysis and strengthens the results of LQ analysis. SI analysis can be formulated in the following equation:

$$SI1 = ½ \sum_{j=1}^{p} \{\left|\frac{xij}{xi} - \frac{xi}{x..}\right|\}$$

Where:

SI : SI value for the total sector in Garut
Xij : GRDP of the fisheries sector in Garut Regency
Xi : GRDP of all sectors in Garut Regency
Xj : GRDP of the fisheries sector in West Java Province
X.. : GRDP of all sectors in West Java Province

If the results of the analysis have a value close to 0, it means that the area has various activities (diversification), while the results of the analysis have a value close to 1, which means that the observed area has special/typical activities [12].

2.1.4 Analysis of shift share

Shift Share (SS) analysis is used to see the contribution of the fisheries sector to GRDP. According to [11] the mathematical model in calculating the contribution is as follows:

$$Ki = \frac{Vi}{Pi} x\ 100\%$$

Where:

Ki = The amount of contribution in year i
Vi = GRDP of the fisheries sector in year i
Pi = Total GRDP in year i

Shift Share (SS) analysis is a method that compares sectors in the region to the national territory [9]. The ratio of production in the fisheries sector in a certain area is divided into ri, Ri, and Ra.

a. ri

$$ri = \frac{Y'ij - Yij}{Yij}$$

Where:

Y'ij= Production from the provincial fishery sector at the end of the analysis
Yij= Production from the fisheries sector in the district in the year of analysis.

b. Ri

$$Ri = \frac{Y'i - Yi}{Yi}$$

Where:

Y'i= Production from the provincial fishery sector at the end of the analysis
Yi= Production from the fisheries sector in the province in the base year of the analysis

c. Ra

$$Rα = \frac{Y'... - Y....}{Y...}$$

Where:

Y'...= Provincial production in the final year of the analysis
Y...= Provincial production in the base year of the analysis

The calculation of the production ratio in the fisheries sector is then continued with the calculation of the provincial growth component (KPP), the proportional growth component (PP) and the regional share growth component (PPW) [12].

3. RESULTS AND DISCUSSION

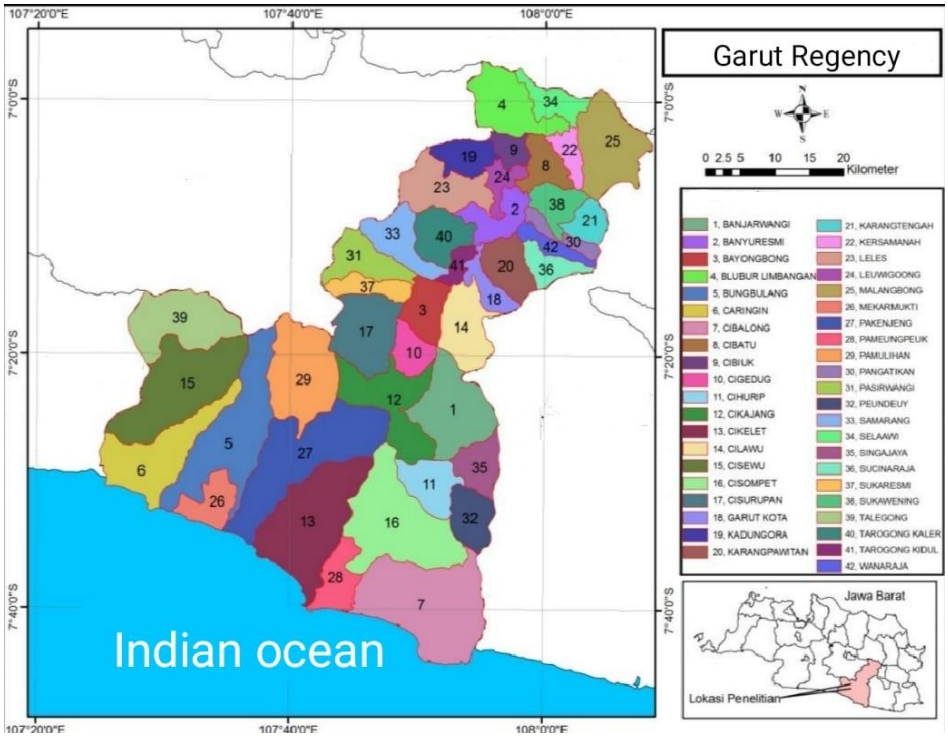
3.1 General Condition of Garut Regency

Geographically, the area of Garut Regency is 307.407 ha or about 8.28% of the total area of West Java Province. Geographically, Garut Regency is located in the southern part of West Java Province with coordinate boundaries between $6^0$56'49" – $7^0$45'00" South Latitude and 107^0 25'8" – $108^0$7'30" East Longitude [13].

Garut Regency has an altitude that varies from the lowest area, parallel to sea level, to the highest site at the top of the mountain. Areas located at an altitude of 1,000-1,500 meters above sea level include Cikajang, Pakenjeng, Pamulihan, Cisurupan, and Cisewu districts, while regions 500-1000 meters above sea level include Pakenjeng and Pamulihan districts. Areas located at an altitude of 100-500 meters above sea level include Cibalong, Cisompet, Cisewu, Cikelet, and Bungbulang Districts. In comparison, areas located between lowlands at fewer than 100 meters above sea level include Cibalong and Pameungpeuk Districts [13].

The government area in Garut Regency includes 42 sub-districts consisting of 442 villages and 21 wards, the same number since 2016. The conditions in the following year did not change in the number of sub-districts, towns, and communities [13].

The population of Garut Regency in 2020, as a result of the 2010 Population Census (SP2010) projection, is 2,636,637 people, with a male population composition of 1,325,506 and a female population of 1,311,131 people. This number increased from 2016, which amounted to 2,569,505 people. In 2016 there were 838 people per km^2 to 844 people per km^2 in 2017, 850 people per km^2 in 2018, 855 people per km^2 in 2019, and 860 people per km^2 in 2020 [14].



Map 1.

3.2 General State of the Economy

Garut Regency's GRDP in 2016-2020 can be seen in Table 1.

3.3 Fishery Sector Economic Growth Component Share

The Shift Share analysis technique divides growth as a change in a regional variable, such as labor, added value, income, or output, over a certain period into influences: national growth, industrial mix/balanced growth, and competitive advantage. The Shift Share analysis compares the differences in the growth rates of various sectors (industries) in the regions with the national ones [6]. Table 2 shows the percentage change in Garut Regency and West Java Province.

Table 2 shows the percentage change in the value of GRDP in the fisheries sector in Garut Regency tends to decrease from year to year. The percentage change in the value of GRDP in the fisheries sector in West Java Province is greater than the GRDP value in the fisheries sector in Garut Regency; this is due to the extensive coverage of the fisheries sector in West Java Province, which can provide a more excellent GRDP value than the GRDP value in Garut Regency.

Table 1. Contribution of Each Sector in Garut Regency's GDP in 2016-2020 (%)

Categories	Business field	2016	2017	2018	2019	2020
A	Agriculture, Forestry, and Fisheries	34,63	34,63	33,77	32,89	32,34
a	**Fishery**	**1,70**	**1,70**	**1,66**	**1,61**	**1,59**
B	Mining and excavation	2,58	2,58	2,40	2,19	2,10
C	Processing industry	7,86	7,86	7,95	8,34	8,73
D	Electricity and Gas Supply	0,06	0,06	0,06	0,06	0,06
E	Waste Management, Waste and Recycling	0,05	0,05	0,05	0,05	0,05
F	Construction	6,23	6,23	6,37	6,53	6,40
G	Wholesale and Retail Trade; Car and Motorcycle Repair	21,25	21,25	21,23	21,30	20,49
H	Transportation and Warehousing	3,84	3,84	3,86	3,87	3,79
I	Provision of Accommodation and Food and Drink	3,56	3,56	3,68	3,82	3,95
J	Information and Communication	2,80	2,80	2,98	3,14	3,84
K	Financial Services and Insurance	2,84	2,84	2,82	2,83	2,89
L	Real Estate	1,77	1,77	1,85	1,93	2,03
M,N	Company Services	0,54	0,54	0,56	0,60	0,54
O	Government Administration, Defense, and Social Security	3,34	3,34	3,19	3,11	3,02
P	Education Services	4,61	4,61	4,85	4,89	5,30
Q	Health Services and Social Activities	0,73	0,73	0,78	0,81	0,80
R,S,T,U	Other Services	3,32	3,32	3,59	3,66	3,66

Source: CBS Garut Regency in Figures 2021 [13]

Table 2. Changes in GRDP of the Fishery Sector of Garut Regency and West Java Province based on constant prices in 2016-2020

Year	(ΔYi)	Persentase Perubahan (%)	(ΔYj)	Persentase Perubahan (%)
2016/2017	13.350,12	2,32	353,25	3,17
2017/2018	12.998,85	2,21	122,86	1,07
2018/2019	8470,79	1,41	553,38	4,77
2019/2020	3375,33	0,55	709,45	5,83

Source: CBS Garut Regency in Figures 2020 [14]
Description: Yi = Garut Regency
Yj = West Java Province

Table 3. GRDP Ratio of the Fishery Sector of Garut Regency and West Java Province in 2016-2020

Year Analysis	Ri	Ri	Ra
2016/2017	0,023	0.031	0,053
2017/2018	0,022	0,010	0,056
2018/2019	0,014	0,047	0,051
2019/2020	0,005	0,058	-0,024

Source: CBS Garut Regency in Figures 2020 [14].
Description: ri = GRDP ratio of the fisheries sector in Garut. Regency
Ri = GRDP ratio of the fisheries sector of West Java Province
Ra = provincial GDP ratio

Table 3 shows that the growth rate of the fisheries sector in Garut Regency and West Java Province can be said to have a declining growth rate. The Ra value is the value of GRDP growth from calculating the difference in the total value of the provincial GRDP in the base year of analysis (2016) divided by the total provincial GRDP of the base year of study (2016). The value of Ra is a value that shows growth or becomes a reference value.

The value of Ri is the value of GRDP growth from the calculation of the difference in the GRDP of the fisheries sector of West Java Province in the initial year of analysis (2020) with the GRDP of the fisheries sector of West Java Province in the base year of study (2013) divided by GRDP of West Java Province in the base year of analysis (2013). The value of ri is the value of GRDP growth from the calculation of the difference between the GRDP of the fishery sector in Garut Regency in the initial year of analysis (2020) and the GRDP of the fishery sector of Garut Regency in the base year of study (2016) divided by GRDP of Garut Regency in the base year of study (2016).

Based on the reference value (Ra), the 2016/2017 Ri value of 0.031, 2017/2018 of 0.010, and 2018/2019 of 0.047 indicates a lower development than the reference value, while 2019/2020 of 0.058 indicates a higher growth of the reference value. The 2016/2017 ri value of 0.023, 2017/2018 of 0.022, and 2018/2019 of 0.014 indicates a lower development than the reference value, while 2019/2020 of 0.005 indicates a higher growth than the reference value. The ratio of GRDP in the fisheries sector in West Java Province tends to be higher than in Garut Regency. Still, in 2017/2018, the GRDP ratio in the fisheries sector in Garut Regency grew to be higher than in West Java Province.

Table 4. Share Components of the Fishery Sector of Garut Regency with West Java Province 2016-2020

Year	KPP
2016/2017	30749,27
2017/2018	33182,66
2018/2019	30492,33
2019/2020	-14903,5

The Proportional Growth Component (KPP) or Share Component is a component of economic growth that explains the increase in GRDP from the provincial level to the district level [7]. The value of the Share component is obtained from the calculation of GRDP in Garut Regency in the base year of the analysis (2016) multiplied by the Ra value. Table 7 shows the value of the provincial growth component or Share component; the importance of KPP in the fisheries sector in Garut Regency and West Java Province shows a fluctuating value. The value of KPP in 2016-2019 the value of KPP shows a positive value; the most considerable KPP value is in 2017/2018 at 33182.66, followed by 2016/2017 of 30749.27, and in 2018/2019 of 30492.33. The year 2019/2020 has a negative value of -14903.5. A sector that has a positive KPP value means that the sector has a fast regional economic growth rate. In contrast, a negative KPP value indicates that the sector's regional economic growth rate grows slowly [15].
The development of the value of KPP in 2016-2019 continued to increase and in 2019-2020 there was a significant decline due to the covid 19 pandemic. The impact of the Covid-19 pandemic has changed the existing and formed economic order, including significant investment. Many sectors experienced contractions, including the fisheries sector, which caused investors to rethink their investments, including in the fisheries sector. In addition, production and market demand have decreased due to the impact of the COVID-19 pandemic.

3.4 Mix Components

Table 5 shows the proportional change (PP) in the contribution of the Garut Regency fisheries sector to West Java Province. Based on the balanced growth (PP) of the fisheries sector in 2016/2017, 2017/2018, and 2018/2019, it gave a negative contribution with values of -1251.01, -2690, and -1843.13, indicating that in that year, the growth rate of the Garut Regency fishery sector slower than West Java Province with a PP value < 0. In 2019/2020, the fishery sector made a positive contribution with a value of 5046.80, which shows that in that year, the growth rate of the Garut Regency fishery sector was faster than West Java Province because the PP value > 0.

Table 5. Mix Components of the Fishery Sector of Garut Regency and West Java Province in 2016-2020

Year	PP
2016/2017	-1251.01
2017/2018	-2690.
2018/2019	-1843.13
2019/2020	5046.80

Description: PP = Proportional Growth

3.5 Competitive Component

Table 6 shows the value of the Competitive Component or regional share growth (PPW), which has an average of -853.06, which is a value that indicates that the general development during the last five years, namely 2016-2020, the fishery sector in Garut Regency does not yet have an advantage over the fisheries sector in other regions in Indonesia. West Java province. 2017/2018, the value of the Competitive component shows a positive number of 6709.22. This is because the growth value of the Garut Regency (ri) fishery GRDP growth is more significant, namely 0.022, compared to the West Java (Ri) province's fisheries GRDP growth value of 0.011. The growth of the GRDP value in 2017/2018 was higher because 2017 was the most increased fishery production, which was 60,659.61 tons, so it was able to encourage the rate of economic growth of the fishery sector in Garut Regency. Results of the Competitive Fisheries Sector Components for 2016-2020:

Table 6. Value of the Competitive Components of the Fishery Sector of Garut Regency in 2016-2020

Year	PPW
2016/2017	-4884.15
2017/2018	6709.22
2018/2019	-2018.4
2019/2020	-3218.9
Average	-853.06

Description: PPW = Regional Share Growth

3.6 Fishery Sector Net Shift

Table 7 shows the net shift value (PB) of the fisheries sector in Garut Regency with an average value from 2016 to 2020, which is -10331,617. The fishery sector shows a PB value < 0, which indicates that the fishery sector in Garut Regency has a slow growth rate.

Table 7. Fishery Sector Net Shift in Garut

Year	PB
2016/2017	-17399,154
2017/2018	-20183,813
2018/2019	-22021,5
2019/2020	18278
Average	-10331,617

3.7 Fishery Sector Growth Profile

The growth profile of the fishery sector is determined based on the percentage of PP and PPW values. This value will indicate which quadrant the fisheries sector is in.

Fig. 1 shows that the fishery sector in Garut Regency is included in quadrant II, showing that the fishery sector in Garut Regency is growing rapidly as indicated by the PP which has a positive value, but the competitiveness of the fisheries sector is less indicated by the PPW which is negative. Fig. 1 shows that the fisheries sector is a sector with non-progressive or slow growth because it is below the 45 diagonal line.

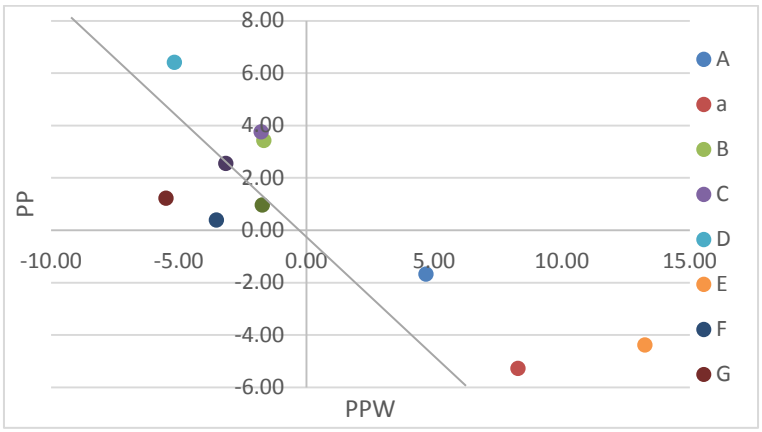


Fig. 1. Growth Profile of the Garut Regency Fisheries Sector

Description: A = Agriculture; a = Fishery; B = Mining and Quarrying; C = Processing Industry; D = Electricity and Gas Supply; E = Water Supply, Waste Management, Waste F = Construction; G = Wholesale and Retail Trade; Car Repair; H = Transportation and Warehousing; I = Provision of Accommodation and Drinks

Table 8.

Categories	Business field	2016	2017	2018	2019	2020
A	Agriculture, Forestry, and Fisheries	4,50	4,55	4,59	4,53	4,40
A	**Fishery**	1,95	1,94	1,97	1,91	1,80
B	Mining and excavation	1,21	1,21	1,22	1,26	1,29
C	Processing industry	0,18	0,18	0,19	0,20	0,21
D	Electricity and Gas Supply	0,13	0,15	0,16	0,17	0,18
E	Waste Management, Waste and Recycling	0,63	0,63	0,63	0,65	0,61
F	Construction	0,77	0,77	0,78	0,79	0,78
G	Wholesale and Retail Trade; Car and Motorcycle Repair	1,36	1,37	1,40	1,39	1,39
H	Transportation and Warehousing	0,80	0,81	0,81	0,81	0,81
I	Provision of Accommodation and Food and Drink	1,39	1,40	1,42	1,47	1,49
J	Information and Communication	0,75	0,75	0,76	0,72	0,65
K	Financial Services and Insurance	1,10	1,11	1,12	1,16	1,14
L	Real Estate	1,54	1,54	1,55	1,55	1,50
M, N	Company Services	1,30	1,31	1,35	1,33	1,40
O	Government Administration, Defense, and Social Security	1,66	1,59	1,61	1,57	1,64
P	Education Services	1,68	1,72	1,73	1,77	1,72
Q	Health Services and Social Activities	0,96	1,00	1,01	0,99	0,98
R,S,T,U	Other Services	1,61	1,68	1,69	1,68	1,66

3.8 The Role of the Fishery Sector on Regional Development

3.8.1 Localization Quotient (LQ) analysis

The LQ technique is one of the approaches commonly used in the primary economic model as a first step to understanding the sector of activity that drives growth. LQ measures the relative concentration or degree of specialization of economic activities through a comparative approach [16].

The results of the calculation of LQ analysis in Garut Regency are shown in Table 8. Table 8 shows how many economic sectors are the basis of the results of the estimate of the LQ value > 1. The Garut Regency fisheries sector is the basis sector, indicated by an average LQ value of more than 1, 1, 91.

The superior regional sector is the sector that can make a significant contribution to the region, not only to meet the needs of the area itself but also to meet the needs of other areas [17].

3.8.2 Localization Index (LI) analysis

The data used in the LI analysis are Garut Regency GRDP data and West Java GRDP data. The results of the LI analysis are presented in Table 9.

Table 9 shows the results of the calculation of the LI for the fishery sector. The fishery sector offers an LI value of 0.00, meaning that the fishery sector is dispersed in West Java Province and has not become the focus of excellence in Garut Regency. This shows that in Garut Regency, there is no specialization in the fisheries sector. Although the results of the LQ analysis show that there is a concentration (base sector) of the fishery sector in Garut Regency, while based on the LI analysis, the fishery sector is dispersed (not concentrated in certain areas), it means that the concentration that has occurred has not yet been focused. This is because other districts in West Java have the potential for the fisheries sector according to their geographical area. Each region has geographical conditions that support the fisheries sector with different business branches.

3.8.3 Analisis Spesialization Index (SI)

The results of the calculation of the SI analysis of Garut Regency in Table 10 show the value of the total SI of Garut Regency in 2016-2020 0.00 (below 0.5), which means that fishery sector activities in Garut Regency are dispersed, or there is no concentration/ specialization in economic activity. All economic activity in Garut Regency shows evenly distributed activity in various economic sectors. The different sectors of activity need a commodity that is used as a leading commodity in Garut Regency.

Table 9. Calculation Results of LI Analysis for Fisheries Sector in Garut. Regency

Year	LI
2016	0,00
2017	0,00
2018	0,00
2019	0,00
2020	0,00

Table 10. Calculation Results of Garut Regency SI Analysis 2016-2020

Categories	Business field	2016	2017	2018	2019	2020
A	Agriculture, Forestry, and Fisheries	0,00	0,00	0,00	0,00	0,00
A	Fishery	0,00	0,00	0,00	0,00	0,00
B	Mining and Quarrying	0,01	0,01	0,00	0,01	0,01
C	Processing Industry	0,01	0,00	0,00	0,00	0,01
D	Electricity and Gas Supply	0,00	0,00	0,00	0,00	0,00
E	Water Supply, Waste Management, Waste	0,00	0,00	0,00	0,00	0,01
F	Construction	0,00	0,00	0,00	0,00	0,00
G	Wholesale and Retail Trade; Motorcycle Car Repair	0,00	0,00	0,00	0,00	0,00
H	Transportation and Warehousing	0,00	0,00	0,00	0,00	0,00
I	Provision of Accommodation and Drinks	0,01	0,00	0,00	0,01	0,00
J	Information and Communication	0,01	0,01	0,00	0,00	0,02
K	Financial Services and Insurance	0,00	0,00	0,00	0,00	0,00
L	Real Estate	0,01	0,00	0,00	0,00	0,01
M,N	Company Services	0,00	0,00	0,00	0,01	0,01
O	Government Administration and Defense	0,01	0,00	0,00	0,00	0,00
P	Education Services	0,01	0,00	0,00	0,00	0,01
Q	Health Services and Social Activities	0,01	0,00	0,00	0,01	0,00
R,S,T,U	Other Services	0,01	0,00	0,00	0,00	0,00

4. CONCLUSION

Based on the research that has been done regarding the Analysis of the Role Fisheries Sector in Regional Development of Garut Regency, West Java, it can be concluded that:

1. The Location Quotient (LQ) value of Garut Regency has an average value of 1.91 (>1) which means that the Garut Regency fishery sector is an economic base sector where the production of the Garut Regency fishery sector can meet the needs of the community in its own area and is able to meet demand needs from another region.
2. Analysis of the growth rate of the fishery sector using the shift-share calculation method from year to year tends to decline. While the growth profile of the fishery sector based on the percentage of PP and PPW values shows that the fisheries sector in Garut Regency is included in quadrant II, a positive pp value indicates that the growth of the fisheries sector is fast. In contrast, a negative PPW value suggests that the competitiveness of the fisheries sector is not good. Progressive because it is located above the sloping line that forms an angle of 45° and intersects quadrants II and IV.

ACKNOWLEDGEMENTS

We would be like to thank The Faculty of Fisheries and Marine Science, Padjadjaran University, Indonesia, for making this research possible.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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