

FACTORS AFFECTING THE DETERMINATION OF VOCATIONAL HIGH SCHOOL LOCATIONS IN SUPPORTING FISHERIES POTENTIAL

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ABSTRACT

The Sumenep Regency is a maritime area with 126 islands and has potential in the processing of the coastal and marine sectors. Fishery production achieved by Sumenep Regency in 2020 reached 35,188.12 tons per year or only 25.61% of the sustainable potential. This means that the untapped fishery potential is 102,211.88 tons per year or 74.39% of the sustainable potential. Production in 2018 has decreased by 9,353.81 tons or 6.81% compared to 2019 production. The decline in production from sustainable potential is due to the low human resources in the fisheries sector due to the absence of fisheries education in the Sumenep Regency. The characteristics of the area, which are partly islands with a low level of mobility between sub-districts, require an educational located on to support fisheries potential. Education to improve human resources is through education at Vocational High School, so the purpose of this study is to determine the location of the Vocational High School to support fisheries potential in Sumenep Regency.

The analysis in this study uses Delphi to determine the criteria for placing the location of the Fisheries Vocational School. Based on the results of the Delphi analysis, it is found that the criteria that affect the location of the Vocational High School in Sumenep Regency are; the number of people who have livelihoods as fishermen and aquaculture farmers; total population aged 16-18 years; the number of junior high school students around the location of Vocational High School, distance from the center of the sub-district to settlements or villages of fishermen and pond farmers, the availability of public transportation infrastructure, road network conditions, annual fish production at the school location, the number of RTPs, as well as the community port or jetty located around the school location. Analysis of determining the location of the Vocational High School using the method Land Suitability Analysis (LSA). The results of the analysis using the LSA found that the areas suitable for the placement of the Vocational High School in Sumenep Regency are; Arjasa District; Ambuntent; and Praga.

Keywords: Fishery potential, Vocational High School

RESEARCH BACKGROUND

Based on a preliminary survey in two Vocational High School locations conducted by researchers, it is known that the 2 (two) Vocational High School units are located close to each other names in Kalianget District and Sumenep City. This is because of the total population aged 16-18 years, a total of 148,632 people in Sumenep Regency, a total of 46,635 people or 31.37% are in these 2 (two) districts, while the remaining 63.63% or equivalent to 101,997 people are in 25 other districts. This shows that the need for SMK is still lacking when compared to the size of the area and the population aged 16-18 years in Sumenep Regency which consists of 27 sub-districts. From the results of interviews between researchers and the community, information was obtained that there are still many Vocational High School graduates who choose to enter SMA or MA because of the small capacity of Vocational High School and the too far reach of

Vocational High School Fishery. So from the conditions mentioned above, it shows the need for the addition of a new Vocational High School in Sumenep Regency.

The characteristics of the area in the Sumenep Regency are islands. Several sub-districts are located in the middle of the sea, separated from other sub-districts. The Sumenep region consists of 18 sub-districts on the mainland and 9 sub-districts in the archipelago such as Ra'as, Masalembu, Sapeken, Arjasa, and others sub -districts. Based on the schedule of the Department of sea transportation, the distance between Arjasa District and Kalianget Subdistrict using a pioneer ship is taken ± 12 hours, from Sapudi sub-district the new ship goes to Arjasa and Sapeken districts. The schedule departs 1 week 3 times, while for the sub-districts of Raas, Kangayan, Nonggunong Giligenteng, and Talango using wooden boats or wooden boats. The large distance traveled causes the level of community mobility between sub-districts to be very low. In the field of education, it makes it difficult for students from island sub-districts to reach schools in other sub-districts that they want. Fishery schools are needed to improve to meet the needs of the community in improving their standard of living, especially in the field of fisheries which they need to support their livelihoods as fishermen/pond farmers. So that in order to establish a new school (SMK), it is necessary to consider the appropriate location based on the potential of each sub-district, especially the potential of natural resources and human resources of fishermen/pond farmers in the area.

The problem of this research is that the fisheries sector is not optimal due to the low human resources in the fisheries sector because there is no fishery education in Sumenep Regency. Based on the problems that exist in this research, the following research questions arise as "what are the influential criteria in determining the location of the Vocational High School Fishery in Sumenep Regency?" This study aims to determine the location of the Vocational High School to support fishery potential in the Sumenep Regency area. The targets of this study are: 1) Identifying the criteria for determining the location of the fisheries Vocational High School in Sumenep Regency, 2) Determining the criteria weight for the location of the Fishery Vocational High School, 3) Determining the location of the Fishery Vocational High School in Sumenep Regency.

RESEARCH METHODS

The approach used in this research is positivistic. Positivistic thinking is specific thinking, thinking about the observed empirically, which is measurable and can be eliminated and can be manipulated, released from the unit of magnitude. Research variables factors that influence in determining the location of Vocational High Schools to support fisheries potential are shown in table 2. Weighting Analysis Criteria for Determining the Location of Fishery Vocational High School in Sumenep Regency

The variables that influence the location determination of the Vocational High School Fishery in Sumenep Regency. The results of the Delphi analysis will be weighted to determine which variables have the most influence on the location determination of the Vocational High School Fishery in the Sumenep Regency. To obtain the weight of the determinants of several variables in determining the location of Vocational High School Fishery locations, weighting was carried out using the method Analytical Hierarchy Process (AHP). The determination of the weight for each variable was carried out using a weighting questionnaire obtained from the opinions of six expert respondents, where the respondents for the AHP method in this study were the same as the respondents for the Delphi analysis.

The weight value for each factor and subfactor is obtained by calculating the average of the results of dividing each pairwise comparison value with the total pairwise comparison value on the combined weight matrix. The sum of the weighted values of all the factors or criteria that exist must be 1 or close to 1 ($W_i \approx 1$). From the calculations carried out through the steps above, the weighted values of each factor and subfactor are generated in determining the location of Vocational High School Fishery locations, as shown in Table 1.

Table 1					
FINAL WEIGHTS FOR EACH CRITERION					
First Level		Second Level		Final Weight	
Factor	Weight	Subfactor	Weight		
Service Radius	0.24314			0.24314	24.31%
Total population	0.4224	Residents as fishermen	0.52449	0.221545	22.15%
		Junior High School Students	0.22195	0.093752	9.38%
		Population Ages 16-18 Years	0.25356	0.107104	10.71%
Accessibility	0.21132	Road Network Conditions	0.5737	0.121234	12.12%
		Terminal Availability	0.4263	0.090086	9.01%
Potential Natural	0.12314	Availability of RTP	0.22345	0.027516	2.75%
		Fish Production	0.59156	0.072845	7.28%
		Availability of Ports	0.18499	0.02278	2.28%
		Availability of Ports	0.18499	0.02278	2.28%

Source: Analysis Results, 2020

From the weighted value of each factor and subfactor as shown in the tree diagram in Figure 1 above, the final result (final weight) of each subfactor can be calculated by multiplying the weight of each subfactor with the factor weight in Figure 1. Over it or related. The results of the calculation of the final weight or final weight of each criterion of the highest weight are as follows: 1) Distance from the center of the sub-district to the settlement of fishing villages/fishpond farmers, 2) Number of fishermen or pond farmers, 3) Conditions of road access, 4) Number of children ages 16-18 years, 5) Number of junior high school students, 6) Availability of terminals, 7) Fish production, tonnes/year, 8) Number of FHs around the location of Vocational High School Fishery, 9) Number of public ports and docks.

SCORING ANALYSIS

Scoring analysis is an analysis used to determine the weight of each criterion. The scoring method used is to multiply the weight value of each factor and subfactor of the AHP results with the existing conditions. This multiplication is intended to obtain the most objective weight value, namely the opinion of experts and existing conditions in the field so that the inaccuracy in determining the location of the Vocational High School Fishery in the two areas can be minimized.

To determine the degree of appropriateness of the location of the Vocational High School Fishery in Sumenep Regency, it is done by giving weight scores on each factor and subfactor that affects the determination of the location of the Vocational High School Fishery. Each factor and subfactor that influences the location determination of Vocational High School Fishery is classified into 4 (four) interval categories by looking at the smallest data and each multiple up to the largest data in the last classification. From the data classification, a score ranking is made based on the classification. The score ranking assessment for each classification used in this study can be seen in Table 2 below:

Table 2	
DESCRIPTION RANKING THE SCORE	
Ranking Score	Explanation
1	Information
2	Sufficiently Appropriate
3	Corresponding

4	Perfectly fit
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Source: Analysis Results, 2020

Based on the score ranking for each classification of each factor and sub-factor as in Table 4. above and the weight value of each factor and sub-factor of the AHP results can be made the total weight value owned by each classification, as shown in Table 3.

Table 3 RESULTS OF THE SCORING ANALYSIS TO DETERMINE THE LOCATION OF VOCATIONAL HIGH SCHOOL FISHERY					
No.	Factor or Subfactor	Classification	Ranking Score	Weight	Final Weight
1	The population of fishermen or pond farmers	< 800	1	22.15	22.15
		801 - 1600	2		44.3
		1601 - 2400	3		66.45
		> 2400	4		88.6
2	Number of children aged 16-18 year	< 1000	1	10.71	10.71
		1001 - 2000	2		21.42
		2001 - 3000	3		32.13
		> 3000	4		42.84
3	Number of Junior High School Students	< 1000	1	9.38	9.38
		1001 - 2000	2		18.76
		2001 - 3000	3		28.14
		> 3000	4		37.52
4	Distance to subdistrict center with fishing village / Fish farmers	> 3 km	1	24.31	24.31
		2 km - 3 km	2		48.62
		1 km - 2 km	3		72.93
		0 - 1 km	4		97.24
5	Terminal Availability	Do not have	1	9.01	9.01
		There is a terminal	2		18.02
		There is a subterminal	3		27.03
		There are terminal and subterminal	4		36.04
6	Road access conditions	Heavily damaged	1	12.12	12.12
		Lightly damaged	2		24.24
		Medium Damage	3		36.36
		Good	4		48.48
7	Fish production, tonnes / year	< 10,000	1	7.28	7.28
		10,001 - 25,000	2		14.56
		25,001 - 40,000	3		21.84
		> 40,000	4		29.12
8	Number of RTP	< 300	1	2.75	2.75
		301 - 550	2		5.5
		551 - 800	3		8.25
		> 800	4		11
9	Pier	do not have	1	2.28	2.28
		There is a pier	2		4.56
		There is a Harbor	3		6.84

	Wharves and ports	4	9.12
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Source: Analysis results, 2020

Analysis of determining the location of Vocational High School Fishery using Land Suitability Analysis to find a suitable location based on the criteria that have been obtained from the results of the Delphi analysis. The degree of location suitability is obtained from the sum of the total values underweighting for all criteria in each region. The total weight value of each location varies where the largest weight value is 333, 72 which is owned by Dungkek District. Meanwhile, those with weights are according to Praga, Talango, Ambunten, and Arjasa Districts.

The location is suitable for the location of Vocational High School Fishing in Sumenep after analysis in 27 sub-districts by needs CMS as the basis Fisheries vocational placement locations supported by the suitability of the potential that exists in the region in Sumenep. The locations of Vocational High School those are suitable as locations for Vocational High School Fishery in Sumenep Regency are Praga District, Ambunten District, and Sapeken District as in Figure 1.

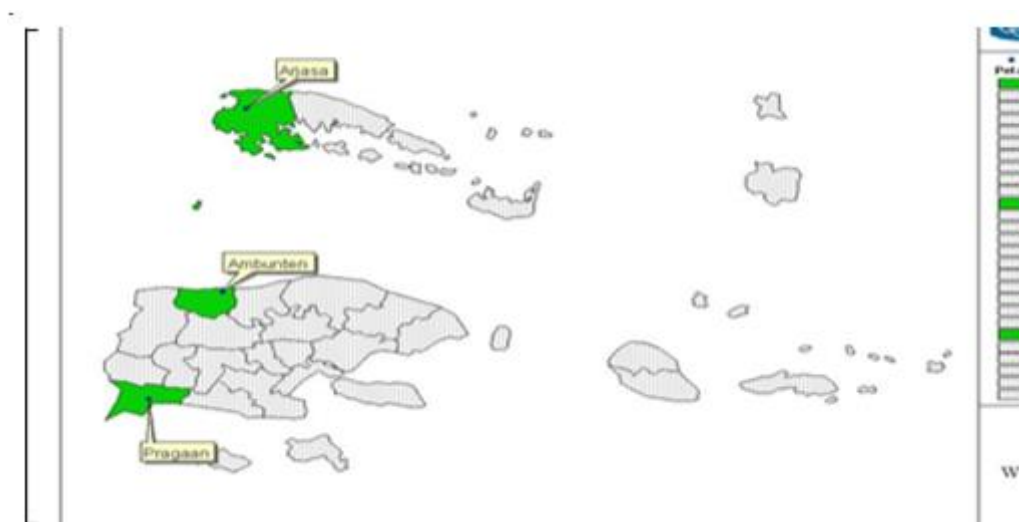


FIGURE 1
THE RESULTS OF THE ANALYSIS OF THE LOCATION DETERMINATION OF
THE VOCATIONAL HIGH SCHOOL FISHERY

CONCLUSION

The potential of the Sumenep Regency is in the fisheries sector, so the SMK that needs to be developed is SMK Perikanan to support fisheries potential in Sumenep Regency. The criteria for determining the location of the Fishery Vocational High School (SMK) in Sumenep Regency based on weighting order results are 1. Distance from the center of the sub-district to the settlement of fishermen/fish farming villages, 2. The number of fishermen or pond farmers, 3. Road access conditions, 4 Number of children aged 16-18 years, 5. The number of junior high school students, 6. Availability of terminals, 7. Fish production, tons/year, 8. Number of FHs around the location of SMK Perikanan, 9. The number of public ports and docks. The results of the analysis Land Suitability Analysis showed that the locations of Fishery Vocational High Schools (SMK) in Sumenep Regency were Ambunten, Praga, and Arjasa districts.

REFERENCES

Adisasmita, H., & Rahardjo. (2006). *Pembangunan Pedesaan dan Perkotaan*, Graha Ilmu, Yogyakarta.

- Branch, Melville C. (1975). *Urban Planning Theory*, John Willey & Sons, Inc, Stroudsburg
- Chiara, Joseph De dan Keppelman, Lee (1978), *Site Planning Standards*, McGraw-Hill, Inc., New York.
- Dinas Pendidikan dan Kebudayaan Kabupaten Sumenep (2020), *Rekapitulasi Kuisisioner Balitbang Bidang Pendidikan, Kabupaten Sumenep Tahun 2007/ 2020*, Dinas Pendidikan dan Kebudayaan Kabupaten Sumenep, Sumenep.
- E Setyowati, A Wiyono. (2018). Weighting Factors Affecting Vocational Education Development to Support Regional Potential. *International Journal of Education and research*, 6(3).
- Jayadinata, Johara T. (1999). *Tata Guna Tanah Dalam Perencanaan Pedesaan, Perkotaan dan Wilayah*, ITB, Bandung.
- Jhingan, (2000), *Ekonomi Pembangunan dan Perencanaan*, PT Raja Grafindo Persada, Jakarta
- Kodoatie, Robert J. Ph.D. (2005). *Pengantar Manajemen Infrastruktur*. Pustaka Pelajar. Yogyakarta
- Kuncoro, Mudrajat (2002), *Analisis Spasial dan Regional Studi Aglomerasi dan Kluster Industri Indonesia*, AMP YKPN Yogyakarta, Yogyakarta.
- Nogroho, Iwan., Dahuri, Rokhmin. (2004). *Pembangunan Wilayah : Perspektif Ekonomi, Sosial dan Lingkungan*. Pustaka LP3ES Indonesia. Jakarta.
- Prestone, Robert (2000), *Urban Planning in a Changing World The Twentieth Century Experience*, E&FN Spon Taylor & Francis Group, London.
- Setyowati, Wiyono. (2018). Weighting Factors Affecting Vocational Education Development To Support Regional Potential. *International Journal of Education and research*, 6(3), 179-186.
- Tarigan, Robinson, (2006), *Perencanaan Pembangunan Wilayah*, Bumi Aksara, Jakarta.
- Tim Penulis Penebar Swadaya, (2020), *Agribisnis Perikanan edisi revisi*, Penebar Swadaya, Jakarta.
- Wiyono A, et al. (2018). Spatial Modeling Vocational Education Development To Support Regional Potential. *Ecology. Environment And Conservation*, 4(4), 1540-1545.