

Analysis of the economic impact of covid-19 on local community income on Natsepa Beach ecotourism in Central Maluku Regency

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Abstract. Natsepa Beach has a natural beauty that attracts tourist arrivals and is managed by the Central Maluku Regency Government. The existence of covid-19 has a significant impact on local people's income and local labor. The purpose of this study is to descriptively compare the presence of Covid-19 to the village of the business in the Natsepa beach. The research method used is the survey method, and the sampling method used is nonprobability sampling. The results showed that the average number and quality of tourism services significantly declined inside and outside the location. During the pandemic covid, the revenue of the business unit/month in the Natsepa beach decreased from IDR.1920000 to IDR.725500; business unit outside the Natsepa Beach tourist attraction from IDR.1850105 to IDR.826725 and the community around the Natsepa from IDR.1830698 to IDR.1278540,-. The economic impact value at the usual time (2018) compared to 2020 was obtained from KIM, namely from 2.04 to 0.84; the importance of RIM I, 1.59 to 1.33, and RIM II 2.31 to 1,73. The conclusion of this study shows that local communities have experienced a drastic decline in income so that they need to be supported by the government.

1 Introduction

Marine tourism is one of the foreign exchange earners for the Indonesian people, its marine area with a variety of coral reefs, fish, and the vast and beautiful sea is a potential that can be developed and utilized to its full potential. The development of tourism activities has a positive impact, especially in the economic field, such as increasing community income, increasing regional and state revenue, and opening up job opportunities for the surrounding community [1]. According to [2], the economic impact is that the growing tourism area encourages the growth of new jobs for the community, which allows the change in the primary type of work from specific jobs to other kinds of work.

Central Maluku is one of the regencies in Maluku Province, which has relatively large fishery potential with a sea area of 264,311.43 km² and a land area of 11,599.57 km² which means that 95.8% of the site is dominated by the sea [3]. Suli Village is one of the villages

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in Salahutu District, Central Maluku Regency, which has the potential for marine ecotourism with quite beautiful views, has a variety of local wisdom from the community such as local food, dances, traditional ceremonies in addition to marine natural resources such as coral reefs and white sandy beaches. Domestic and foreign visitors often visit this village to forget the busyness during work. Suli country has several marine tourism locations, one of which is Natsepa Beach.

Natsepa Beach has tourism potential, including its general location, the beauty of the sea and white sand, and the famous Natsepa fruit salad for its deliciousness. In addition, this beach has various facilities and infrastructure that support it as a tourist area. The Central Maluku Regency Tourism Office is increasingly developing the Natsepa Beach tourist area. It continues to strive to become one of the tourism potentials and the economy of the surrounding community. So that it can have a significant impact on the income and livelihoods of the community who initially only worked as fishermen and bread sellers, but now people can open their business units engaged in tourism such as small retail, restaurants, and transportation services such as boats/canoe. The number of travelers visits who come to Natsepa Beach tourist sites is also extensive. Data from [4] shows the number of travelers who come to Natsepa Beach tourist sites before and during Covid-19 in 2018 and 2020, as shown in Table 1.

Table 1. Data on the number of travelers coming to Natsepa Beach according to entrance tickets in 2018 and 2020

Travelers	Number of Travelers (persons) before Covid-19 Pandemic	Number of Travelers (persons) during Covid-19 Pandemic
Foreign	878	15
Domestic	3.395	784
Local	182.927	72.505
Amount	187.294	73.304

Source: Central Maluku Regency Tourism Office, 2021

During the Covid-19 Pandemic, which was previously the Earthquake in 2019, the condition of the Natsepa beach ecotourism destination experienced a decline in the number of tourists, causing the community’s income and local workers to decline. The COVID-19 pandemic seems to have made matters much worse, as several ‘female’ jobs have been, temporarily at least, wiped out of the market. This includes leisure, tourism, and retail jobs, where women have been at the front line. Some of these jobs could never be recovered [5-7]. Therefore, this research was conducted with the aim of:

- i. Identifying the condition of the community who used Natsepa beach ecotourism before and during the Covid-19 pandemic.
- ii. Analyzing the Economic Impact that occurred on local communities before and during the Covid-19 pandemic.

2 Material and methods

2.1 Materials

This research is socio-economic research related to the community’s utilization of the beauty of coastal and marine resources. The approach is more directed at the respondent’s ability to answer according to the facts and experiences they have experienced so far. The materials were used in questionnaire paper, stationery, photographic equipment from HP and LSR cameras, recorders and GIS, and computer equipment for data analysis.

This research was conducted in June-December 2020 during Covid-19 and used data research 2019 before covid-19. The study is located in Suli village, Salahutu District, Central Maluku Regency, especially in the Natsepa beach traveler attraction. The map of the research location is shown in Fig. 1.

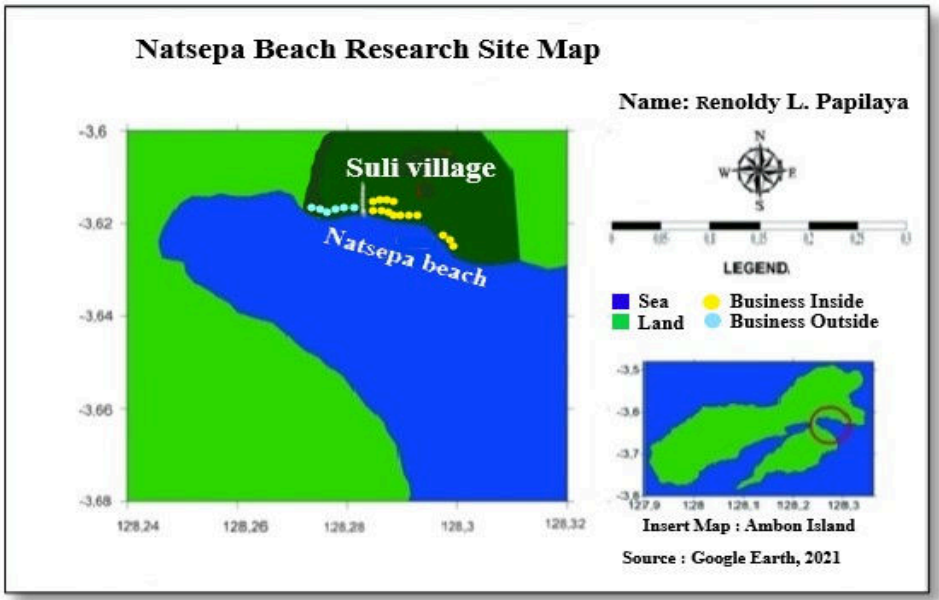


Fig. 1. Natsepa Beach Research Site Map.

2.2 Methods

To find out the economic impact of NatsepaBeach tourism on the income of the people of Suli, the data analysis method of the multiplier effect [8-9]. The study began with survey methods, problem identification, literature study, method determination data collection, population determination, and questionnaire preparation samples [10]. The sample in this study consisted of two methods, namely by accidental sampling and purposive. The research Sampling Framework can be seen in Table 2.

Table 2. Sampling Framework, Economics Impacts before and during Covid-19.

Population Characteristics	Item				Judgment
	Population	Sample	%	Sampling Technique	
Travelers	--	(98) / 65)	--	Accidental	Direct Impact
Business within the Coastal unit)	35	20/6	57,1/ 17,1	Purposive	Direct Impact
Labor in the Coastal (Persons)	32	22/6	68,6/ 12,5	Purposive	Direct Impact
Business outside (unit)	24	19/8	79,2/ 33,3	Purposive	Indirect Impact
Beneficiary Community around the Natsepa	65	45/25/	69,2/38,5	Purposive	Induced Impact
Amount	156	106/45	67.9/ 27,6	--	--

Source: Primary Data, 2020

The results of data collection to determine the economic impact are then analyzed using the multiplier effect data analysis, wherein measuring the economic impact of tourism activity on the economy of local communities, there are two types of multipliers, namely According to [11 – 12] :

1. Keynesian local income multiplier (KIM), which is a value that shows how much visitor spending has an impact on increasing local people's income.

2. Ratio Income multiplier (RIM) I and II, which is a value that shows how much direct impact the visitor's expenditure has had on the local economy. This multiplier measures indirect and indirect effects. According to [13] mathematically, it can be formulated:

$$KIM = \frac{D+N+U}{E} \quad (1)$$

$$RIM \text{ Type I} = \frac{D+U}{D} \quad (2)$$

$$RIM \text{ Type II} = \frac{D+N+U}{E} \quad (3)$$

E = Additional travelers expenditure (IDR)

D = Local income derived directly from E (IDR)

N = Local income derived indirectly from E (IDR)

U = Local income earned induced from E (IDR)

According to [12 – 13], the value of Keynesian Local Income Multiplier, Type I Ratio Income Multiplier, Type II Ratio Income Multiplier has the following criteria:

- a. If these values are less than or equal to zero (≤ 0), then the tourist location has not been able to provide an economic impact on tourism activities.
- b. If these values are between zero and one ($0 < x < 1$), then the tourist location still has a low economic impact value, and
- c. If these values are greater than or equal to one (≥ 1), then the tourist location has impacted tourism activities economically.

3 Results

3.1 General characteristics of respondents

Respondents in this study consisted of tourists, business units at the Natsepa beach object, labor, business units outside the Natsepa beach attraction, and the Natsepa Beach tourist attraction community. The total number of respondents who were taken was 214 respondents (106 community and 108 travelers)—consisting of the characteristics of respondents based on gender (Fig. 2), education level (Fig. 3), type of work (Table 3), length of business and work (table 4), and some dependents of community respondents (Table 5). Characteristics of respondents are divided into two categories, namely for community respondents and tourist respondents.

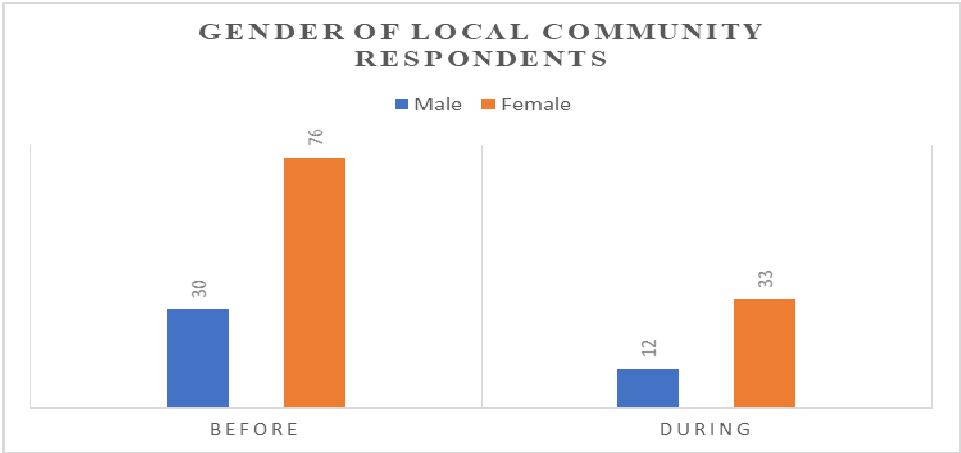


Fig. 2. Gender of local community respondents, before and during a covid-19 pandemic.

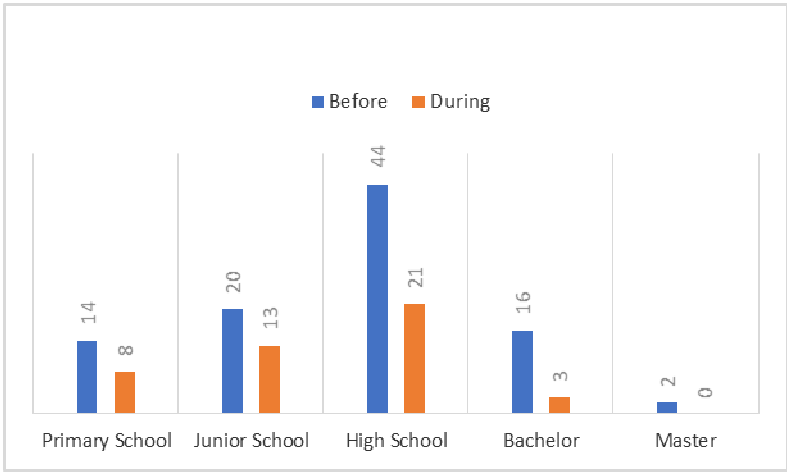


Fig. 3. Education level of local community respondents, before and during a covid-19.

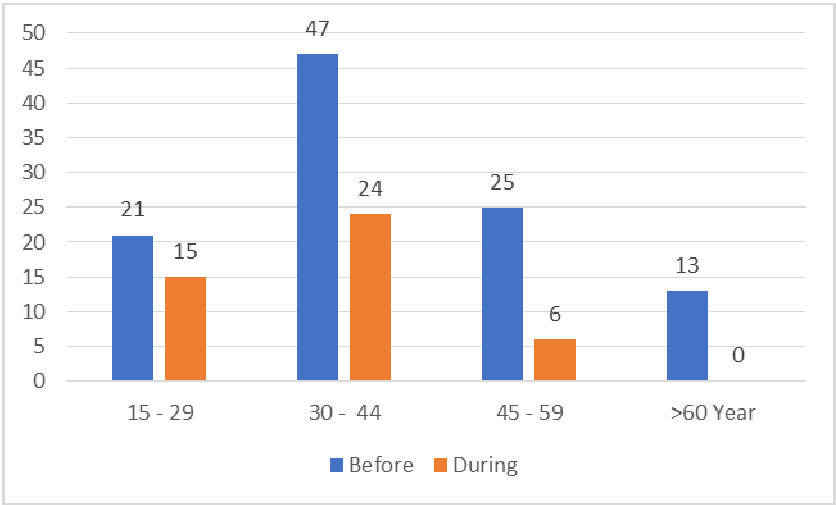


Fig. 4. Age of local community respondents before and during the covid-19.

Table 3. Type of work of respondents (community and travelers).

Type of Work	Community Respondent					Travelers Respondent		
	Business Inside (unit)	Labor Inside (Persons)	Business Outside (unit)	Community Business Natsepa around Beach	Total	(%)	Amount (Persons)	(%)
Civil Servants	-	6/4	-	9/9	15/13	14,2 / 28,9	21 / 12	19,4 / 18,5
BUMN Employee	-	-	-	1/1	1/ 1	0,9 /2,2	13/ 7	12,0 / 10,8
Student	-	-	-	-	-/ -	- / -	5/ 3	4,6 / 4,6
Entrepreneur	-	-	-	12/4	12/4	11,3 / 8,9	39/ 20	36,1 / 30,8
Private Employee	-	-	-	5	5/-	4,7/-	17/ 8	15,7 / 12,3
Transp. Services	-	5/2	6/2	6/2	17 /6	16,0 /13,3	- / 5	- / 7,7
Pastor	-	-	-	1/1	1/ 1	0,9 / 2,2	1 / -	0,9 -
Tourism Services	20/6	-	12/5	4/2	36/13	34,0 /28,9	- / -	- -
Retired	-	-	-	4/2	4 / 2	3,8 / 4,4	4 / 3	3,7 / 4,6
Craftsman	-	3	1/1	1/1	5 / 2	4,7 / 4,4	- / -	- -
Honorary	-	8	-	-	8 / -	7,6 / -	3 / 2	2,8 / 3,1
Part Timers	-	-	-	2	2 / -	1,9 / -	4 / -	3,7 -
Consultans	-	-	-	-	- / -	- / -	1 / 5	0,9/7,7
Total	20/6	22/6	19/8	45/25	106 /45	100 / 100	108 / 65	100 / 100

Source : Primary data, 2021

Table 4. Length of time for business and work Community Respondents.

Length of Business and Work (Years)	Respondent				Total	(%)
	Business Inside (Unit)	Labor Inside (persons)	Business Outside (Unit)	Community business AroundSuli village		
1-5	2	5	10	10	27	25,47
6-10	6	9	7	14	36	33,96
11-15	2	5	2	9	18	16,98
16-20	7	2	-	7	16	15,09
>20	3	1	-	5	9	08,49
Jumlah	20	22	19	45	106	100

Source : Primary data, 2021

Table 5. Number of people born in the family.

Number of people borne in the family	Respondent				Total	(%)
	Business Insider (units)	Labor Inside (persons)	Business OutsideNats epa (units)	Community Business around Suli village (units)		
Not yet	1	4	-	4	9	08,49
1 – 2	-	9	1	11	21	19,81
3 – 4	6	5	5	14	30	28,30
5 – 6	8	4	6	10	28	26,42
7 – 8	5	-	4	4	13	12,26
> 8	-	-	2	3	5	04,72
Jumlah	20	22	19	45	106	100

Source: Primary data, 2021

3.2 Average expenditure and income of travelers and local community

The average spending and income of tourists and local communities in the Natsepa Beach tourist destination can be seen in Table 6, Fig. 5, and Fig. 3 below.

Table 6. Average travelers expenditure in Natsepa Beach tourism (before and during a covid-19 pandemic).

No.	Travelers Expense	Value (before Covid-19) (IDR/visit) (%)		Value (during Covid-19) (IDR/visit) (%)	
A.	Expenses outside the Natsepa Beach destination				
1.	Transportation Cost	70.477	12,90	112.375	12,29
2.	Consumption brought from home	105.296	19,27	228.678	35,18
	Total A (Leakage Total)	175.773	32,17	341.055	52,46
B.	Expenses at a tourist destination				
1.	Entrance ticket (including parking)	17.787	3,25	10.244	01,58
2.	Consumption at tourist sites	179.157	32,79	158.823	24,43
3.	Toilet Services	9.585	1,75	5.73500,88	
4.	Tool Rental (snorkeler, boat, canoe, etc)	164.150	30,03	134.226	20,65
	Total B	370.679	67,83	309.028	47,54
	Average Travelers Expenditure (IDR/Day/Person)	546.452	100	650.083	100

Source:Primary Data, 2021

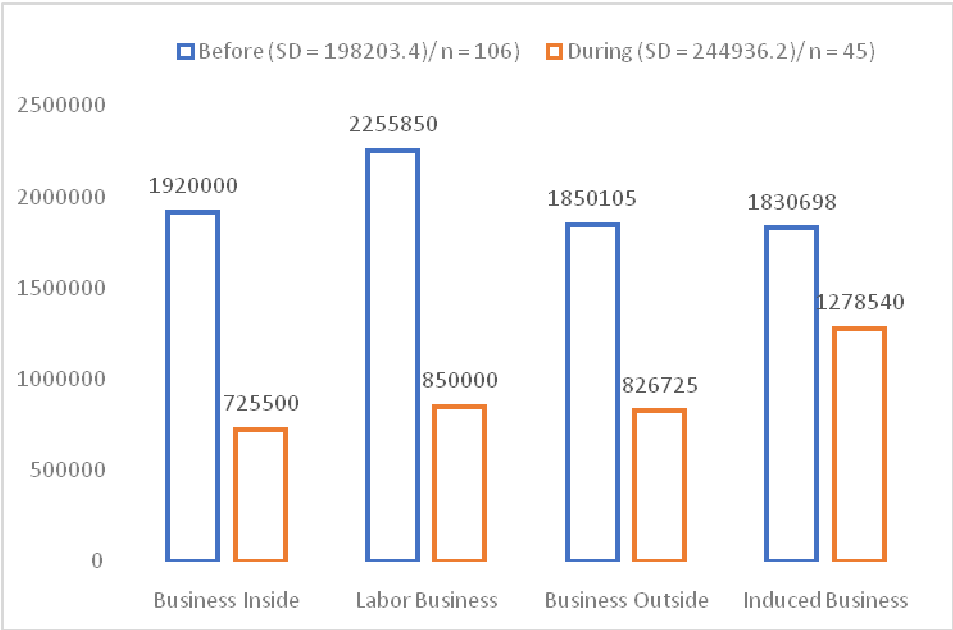


Fig. 5. Community business income on Natsepa Beach (before and during covid-19).

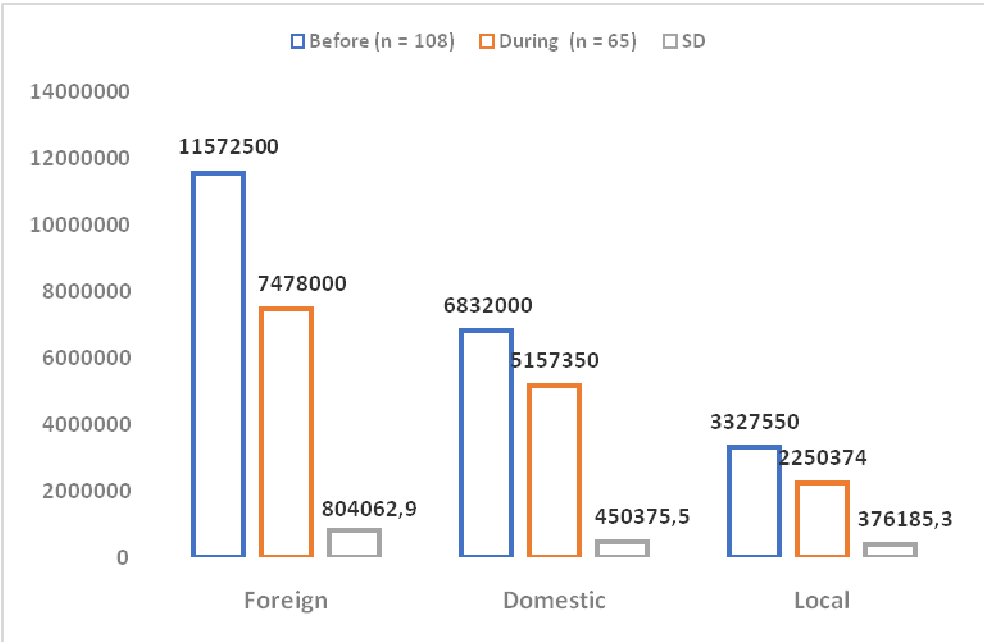


Fig. 6. The average income of travelers (before and during the covid-19 pandemic).

3.3 The economic impact of Natsepa Beach marine tourism destinations

The results of the analysis of the economic effects of Natsepa Beach Marine Tourism Destinations can be seen in the following Table 7 and Table 8.

Table 7. Value of economic multiplier effect before the covid-19 pandemic.

No	Item	Symbol	Value (IDR)	Multiplier Income Ratio			Information
				KIM	RIM Type I	RIM Type II	
1.	Additional Travelers Expenses	E	40.033.300	2,04	1,59	2,31	Value has an economic impact on tourism activities because the value obtained is more than or equal to one (≥ 1)
2.	Local Revenue Earned Directly	D	35.350.700				
3.	Local Income Obtained Indirectly	N	25.725.200				
4.	Local Income Induced	U	20.750.500				

Source: Primary Data, 2021

Table 8. Value of economic multiplier effect during the covid-19 pandemic

No	Item	Symbol	Value (IDR)	Multiplier Income Ratio			Information
				KIM	RIM Type I	RIM Type II	
1.	Additional Travelers Expenses	E	10925500	0,84	1,33	1,73	There is a decrease in the income of people who interact directly with travelers because the value of 'KIM' is less than one (< 1)
2.	Local Revenue Earned Directly	D	5350000				
3.	Local Income Obtained Indirectly	N	2134000				
4.	Local Income Induced	U	1750000				

Source: Primary data, 2021

4 Discussion

4.1 General characteristics of respondents

The gender of local community respondents who have tourism service businesses is dominated by 76 people out of 106 respondents and decreased during the covid-19 pandemic by 33 people from a total of 45 respondents. For the level of education, the most significant number of respondents in the community have high school education and the equivalent, while at the age level, most of the respondents are in the productive age of 15 - 60 years (93 people or 87.74%) while those who are above the age of 60 are only 13 people or 12.26%.

The working conditions affected local community respondents and tourists who were analyzed before and during the Covid-19 Pandemic. It can be seen that the work of local communities is dominated by tourism service businesses, namely 36 respondents or 34% before the covid-19 pandemic and 13 respondents or 28.9% during the pandemic. The tourism service businesses are culinary, rental services such as boats, canoes, homestays, etc. At the same time, the work of tourists is dominated by entrepreneurs (39 respondents or 20 %) and civil servants (21 respondents or 12 %).

For the length of time in business, respondents inside and outside Natsepa beach tourism are also workers, an average of 1 - 10 years (59.43% of 63 respondents before pandemic). Meanwhile, during the COVID-19 pandemic, the number of respondents was

only 45, which decreased the number of people from the previous 106. Respondents have a family that must be supported at all times. The largest family dependents that respondents must support are in the range of 3 - 6 family members, namely 58 respondents or 54.72%.

Tourism activities will foster diversification of people's livelihoods who previously only worked as fishers/farmers or bread sellers, can open business units engaged in tourism such as kiosks, restaurants, souvenirs, equipment rental services, and transportation services such as boats/ship and pulse sales [13-15].

4.2 Average expenditure and income of travelers and local community

The spending of tourists visited the Natsepa beach tourism destination before the Covid-19 pandemic. It can be seen that the highest costs are incurred for consumption costs at the location, especially RujakNatsepaand Coconut ice (IDR.179.157,- or 32,79% before pandemic) which is already well known as well as payment for tourist services (IDR.164.150,- or 30,03%) such as rental of snorkeling equipment, boats, banana boat, etc. (67,83%). Some costs are lost or leaked because tourists bring food from home and use their transportation services (32,17%).

During the 2020 Covid-19 Pandemic, there was a change in the pattern of tourist spending, which was seen in the largest tourism consumption expenditure, which was consumption brought from home at IDR. 228,678 or 35.18%. This is a lost cost and is not utilized by local communities in tourist sites. Higher costs incurred by tourists during the pandemic than before the pandemic brought from home. Meanwhile, consumption expenditure in tourist locations was greater before the pandemic than when the pandemic occurred, which was IDR. 158,823 or 24,30%. Leakage is part of tourists' money that is not spent back and does not affect local economic activities [13-14].

4.3 The economic impact of Natsepa Beach marine tourism destinations

The economic multiplier value is a value that shows the extent to which tourist spending will stimulate further expenditures, thereby increasing economic activity at the local level. According to terminology, there are three multiplier effects: direct, indirect, and induced. These three effects are used to calculate the economy and then estimate the economic impact at the local level [12; 16]. In this follow-up impact, what is seen is the expenditure of tourists, business units located on Natsepa beach, and labor spent in business units outside Natsepa beach.

The multiplier effect is the value for the economic impact on local people's income before the Covid-19 pandemic. This shows that the KIM and RIM Ratio Values have a value above one. This means: "If these values are greater than or equal to one (≥ 1), then the tourist location has been able to provide an economic impact on tourism activities"[12, 14, 15]. During the Covid-19 Pandemic, the Income Value of tourists and the community under study experienced a very significant decrease. According to the time of the survey, total tourist income could be forty million during the pandemic, only ten million rupiahs. This has an impact on the local community's income which is decreasing. The value of the KIM and RIM Type 1 and 2 ratios also reduced, especially what happened to Tourism Businesses located in the Natsepa beach tourist location, which was only 0.84, which means: If these values are between zero and one ($0 < x < 1$), then the tourist location still has a low economic impact value [11 - 13].

The direct economic impact of tourism activities on the Natsepa beach comes from the financial activities between tourists and local communities with business units in the tourist attraction. The business unit meets the needs of tourists when they are traveling in tourist objects to provide benefits in the form of income to the surrounding community. In

comparison, the indirect economic impact (indirect impact) comes from the income earned by workers who work at the Natsepa beach tourism object.

The Induced impact of the expenditure of tourists, business units located on the Natsepa beach, and this workforce will be received by the business unit, and part of the income received by the business unit is used to purchase raw materials. Jobs available and open to the people of Sulivillagedue to Natsepa beach tourism include trading, transportation services (taxi bike and city transport drivers) to go to Natsepa beach attractions. Based on the research results, various types of work are located outside the Natsepa beach tourist attraction to provide job opportunities for the community.

Based on the results obtained, it can be concluded that the existence of the Natsepa beach tourism object had an economic impact on the economy of the local community before the Covid-19 Pandemic. The value of the effect multiplier has decreased to a value below 1 (0.84) in line with the spread of the Covid-19 pandemic. This means that the ability of local communities is strongly influenced by the expenditure of tourists, which has a direct, indirect, or follow-up effect on the community.

5 Conclusion

Before the Covid-19 pandemic, the economic condition of the people who used Natsepa beach tourism was in good condition, with income approaching the Provincial Minimum Wage (Rp 2,320,803, -). Local community businesses are dominated by tourism services such as culinary services and marine tourism services. When the Covid-19 pandemic occurred, there was a decrease in the number of people who tried, and those who still exist are those who sell Natsepa salad and boat rental activities.

During the Covid-19 pandemic, people's incomes decreased with an average income of only Rp. 750,000 - especially business people in the Natsepa beach tourist destination. This is indicated by the "KIM Value", which is below the value of one ($0.84 < 1$).

6 Acknowledgements

This research can be carried out in a Covid-19 pandemic situation because of the support of several parties:

1. The Central Maluku district government, especially the Tourism Office, which manages the Natsepa beach marine tourism destination as well as the Suli village government, which provides a lot of information related to local community respondents
2. Local communities in Suli village as respondents who support researchers with data and information related to tourism service businesses

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