

## ACCESS JUSTICE AND STRENGTHENING THE INSTITUTIONAL PERFORMANCE OF MARINE ECOTOURISM MANAGEMENT IN RAJA AMPAT, INDONESIA

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**Abstract:** Tourism is one of the main economic drivers in Raja Ampat which is one of the most popular tourist destinations in Indonesia. However, Raja Ampat is identified as one of the underdeveloped regions of Indonesia. The research objectives analyze 1) levels of community access within the marine ecotourism management; 2) the strength of the institutional performance of marine ecotourism management; 3) and levels of sustainability in marine ecotourism in Raja Ampat. The method used within this research is a quantitative and qualitative approach which involves ninety respondents and twelve informants. The research outcome indicated that the majority of the community have low levels of access to tourism resources. However, the community's contribution to the institutional performance of marine ecotourism management is judged to be robust and it has an impact on the sustainability of marine ecotourism in Raja Ampat. The research results show that aside from equal access, other aspects also influence the strength of the management's institutional performance in achieving sustainability of the marine ecotourism. Based on the level of sustainability analysis, the ecological and social dimensions are stated to be appropriate. However, the economic dimension is declared to be inappropriate.

Keywords: Access justice, Indonesia, institutional performance, marine ecotourism.

### Introduction

The development of tourism is viewed as a potential source of employment which could be the largest contributor towards the national economy (Hendijani & Yuliana, 2016; Rout *et al.*, 2016; Joshi *et al.*, 2017). Based on the reports from World Travel and Tourism Council (WTTC) in 2017, tourism contribution towards the world's Gross Domestic Product (GDP) has reached 10,4% and this makes tourism one of the key drivers for a nation's socio-economic improvement (Ministry of Tourism of the Republic of Indonesia, 2018).

Ecotourism has become a tourism concept that must be further developed to achieve sustainable tourism. Sustainable tourism is defined as tourism which focuses on the environment's sustainability and community

welfare and is expected to become beneficial for the current and future generations. Rydin *et al.* (2003) stated that the development of sustainable tourism must be based on actual analysis of the environmental potential which must be preserved to maintain the environmental, socio-cultural, and socio-economic sustainability to improve the welfare of local communities.

Through ecotourism, tourists participate in environmental-based tourism activities, aiming to offer leisurely activities by enjoying the surrounding culture and environment which have sustainable qualities, both in terms of environmental conservation and community welfare improvement, with specialized management, locally oriented, does not have consumptive qualities and focuses on the experience and education of environment

(Lascurian, 1996; Wood, 2002; Damanik & Weber, 2006; Bhuiyan *et al.*, 2016; Honrado *et al.*, 2017).

Ecotourism management includes the participation of all stakeholders, such as the government, private sectors, community, and NGOs to achieve a synergistic and sustainable development (Young *et al.*, 2010; Jitpakdee & Thapa, 2012; Cobbinah *et al.*, 2013; Yeboah-Assiamah *et al.*, 2016; Kanyuuru *et al.*, 2017; KC *et al.*, 2018; Baird *et al.*, 2019; Wondirad, 2019). Each stakeholder has different levels of resource accessibility. Therefore, it is important to identify the levels of accessibility specifically the accessibility of the community. Ribot and Peluso (2003) stated within their theory that access is utilized to analyze the actor's benefits. This paper identifies the level of access based on the structural-relation of the community. Structural-relation based access is access that is obtained through a bundle of power which is possessed by a party without the party possessing ownership rights.

Within ecotourism management it is important to ensure the access of the community. This is because the access of the community influences the opportunities for the community to contribute and strengthen the institutional performance of ecotourism management. Inequality of access could hinder efforts to optimize existing resource management regulated in institutions. According to He *et al.* (2008), the disproportionate distribution of benefits among the stakeholders could lead to the failure of the managerial performance of ecotourism and conservation. Corresponding to this matter, Bryant and Bailey (1997) stated that the existing conflicts of access and power could negatively affect the effectiveness of resource management. Ross and Wall (1999) also stated that effective community participation and equal distribution of benefits in resource management also play a crucial role.

The institutional element is a critical foundation that must be collectively strengthened by stakeholders to sustainable marine ecotourism. That is because institutions have

the power and quality to influence local people's behaviours, drive them to conduct activities effectively, and be a management foundation. According to Ostrom, an institution has rules, norms, and strategies in directing collective actions and is used to determine who fulfills the conditions and who makes the decisions in which areas, and determines which actions to do or limit (Ostrom, 1990; Satria, 2009; Fidelman *et al.*, 2012).

Marine resource management sustainability is affected by the ecological, economic, social, and institutional dimensions as well as the exogen attributes, external forces outside of the resource management system (Nikijuluw, 2002). Moffatt *et al.* (2001) stated an explanation regarding the economic, social, and environmental dimensions. The economic dimension is related to efforts in increasing economic growth, eradicating poverty, and changing towards a more balanced consumption pattern. The social dimension includes the efforts in solving problems regarding populations, improving community services, and increasing the quality of education. The environmental dimension is all efforts in decreasing and preventing pollution while maintaining the conservation of natural resources.

Raja Ampat is a biodiversity hotspot, therefore it is not surprising that Raja Ampat is one of the most popular marine tourism regions until today (Nikijuluw *et al.*, 2017; McKenna *et al.*, 2002; Raja Ampat Government, 2018). Even though Raja Ampat is tremendously rich in biodiversity which makes it a popular tourism destination, it is categorized as one of the underdeveloped regions in Indonesia. This is stated in the Presidential Decree Number 131 of 2015 on the Declaration of Underdeveloped Regions Year 2015 - 2019. This indicates that the distribution of access or benefits is still unjust and the management system is ineffective.

Therefore, the goal of this paper is to identify the community's structural-relational-based levels of access, the institutional performance, strategy to strengthen marine ecotourism management, and the level of sustainability

of the marine ecotourism in the tourism-based villages of Raja Ampat. The results of the paper can contribute towards the novelty, both theoretically and empirically, and can drive regulations towards fair and just access and the institutional performance strengthening strategy in marine ecotourism management in achieving sustainability.

## Materials and Methods

### Data Collecting

The research was conducted in November 2018 and October 2019. From six existing tourism-based villages located in Meos Mansar District Raja Ampat, West Papua Province, three villages were purposively selected as the research locations. These locations consisted of Yenbuba Village, Arborek Village, and Sawinggrai Village. The three villages were located within the Dampier Strait region, which is considered an area with potential coral reefs which are mainly utilized as marine tourism development in Raja Ampat.

The method used in this research is mixed-method. The mixed-method is a combined methodology using both quantitative and qualitative methods. The mixed-method strategy is conducted through a survey method using a questionnaire for the quantitative data and case study through observation, in-depth interview, and Focus Group Discussion (FGD) as qualitative data which can be used correspondingly to strengthen both data results. Through a mixed-method methodology, we can give a stronger understanding of the research problems compared to using a single methodology (Creswell, 2014).

The mixed-method approach was used to answer the three research objectives which are to analyze: 1) the level of community access within the marine ecotourism management; 2) the strategy in strengthening the institutional performance of marine ecotourism; 3) the level of ecotourism sustainability in Raja Ampat tourism village. The design of the mixed-method approach is sequential explanatory.

The data collection process consists of two phases, the first phase is quantitative sampling and the second phase is direct observation and in-depth interviews with key informants. The questionnaire, interview topics, and FGD topics discussed matters regarding the access of the tourism village community, the institutional performance of the marine ecotourism and the community's contribution, and the assessment towards the sustainability of marine ecotourism. The results of the observations, interviews, and FGD are written as daily field notes in the form of direct quotations and detailed descriptions.

The sources of data within this research are respondents and informants. The population of this research is the local community of Arborek, Yenbuba, and Sawinggrai tourism-based villages Meos Mansar District, Raja Ampat, West Papua. Based on the village monography, the population in 2019 in Arborek was 197 people, Yenbuba had 446, and Sawinggrai had 291 people. From the total working population, 42.8% of the residents came from Arborek Village, 33.5% residents were from Yenbuba Village, and 22.9% of residents from Sawinggrai Village work in tourism-related fields (based on data from the village monograph).

The sampling method in this research is cluster random sampling. The locals in Arborek, Yenbuba, and Sawinggrai have homogenous characteristics. From the sampling framework, as many as 30 people from each village were respondents, with a total number of 90 respondents for this research. Gay and Diehl (1992) stated that research that tests the correlation should have a minimum number of 30 samples.

What differentiates respondents from informants is that informants are individuals who can describe a condition or environment in great detail. The selection of informants was done through the snowballing technique, which is an informant selection technique by selecting one informant and progressing to another informant to obtain more information and stop when all information has reached a point of similarity

or point of saturation. This research has twelve informants which consist of individuals from the Cultural and Tourism Agency of Raja Ampat, the Regional Development Planning Board of Raja Ampat, the Technical Implementation Unit of the Regional Public Services Agency of Raja Ampat, The Nature Conservancy, Conservation International, the heads of Arborek, Yenbuba, and Sawinggrai villages, the members of the homestay association in Raja Ampat, the local tourism operators and non-tourism operators within the local community, and several private sector representatives.

The data collecting process was conducted through a survey and case study which was conducted at the research locations. To understand the goal and research questions, the researcher and enumerator assisted with the questions in the questionnaire and in-depth interview guidelines, so as to avoid any biased answers. The following data collection techniques and data sources are discussed in Table 1.

### **Data Analysis**

The data was analyzed by describing the data quantitatively in advance of the respondents' assessments and opinions. Furthermore, the quantitative data is then complemented with an explanation of qualitative data by developing an

in-depth analysis. The instruments used in this research are a questionnaire and an in-depth interview guideline. Corresponding with the objective of this paper, the questionnaire and in-depth interview guide are divided into three sections.

The first part of the questionnaire consists of eight items to measure the levels of access, the second part consists of 11 items to measure the institutional performance of marine ecotourism management and the third part consists of 28 items to measure the level of sustainability of ecotourism in tourism-based villages of Raja Ampat. The responses for these three sections are based on the three points on the Likert Scale. The Likert scale used to measure the levels of access are 1 = low, 2 = moderate and 3 = high. The Likert scale used to measure the institutional performance of management are: 1 = weak, 2 = robust and 3 = very strong, meanwhile the scale used for the levels of sustainability are 1= inappropriate; 2 = appropriate; and 3 = highly appropriate.

The unit of analysis within this research is differentiated based on the survey and case study. The unit of analysis used within the data collecting process of the survey is individuals. The unit analysis for the case study is a community. After data has been collected, the quantitative data is processed using frequency

Table 1: Data collecting techniques and data sources

<b>Research Objective</b>	<b>Data Source</b>	<b>Data Collecting Method</b>	<b>Method of Analysis</b>
To analyze the levels of structural-relational based access	Primary Data	A questionnaire, In-depth Interview, FGD, and documentation	Average and rank spearman correlation analysis through SPSS along with descriptive qualitative analysis
To analyze the performance of marine ecotourism management institutions	Primary Data	The questionnaire, In-depth Interview, FGD, and documentation	Average and rank spearman correlation analysis through SPSS along with descriptive qualitative analysis
To analyze the sustainability of marine ecotourism	Primary and Secondary Data	The questionnaire, In-depth Interview, FGD, and documentation	Average and rank spearman correlation analysis through SPSS along with descriptive qualitative analysis

tables, average analysis, and rank spearman correlation. The data is processed using Microsoft Excel 2016 and SPSS (Statistical Program for Social Sciences) version 25.0. The relation between the levels of access towards the institutional performance of marine ecotourism management towards the level of marine ecotourism sustainability, was done using rank spearman correlation tests by measuring the relationship between two variables with an ordinal scale. The qualitative data is analyzed through three stages which consist of data reduction, presentation of data, and verification (Creswell, 2014).

Rank spearman correlation is a procedure used to analyze the relationship between two variables on the ordinal scale. Here are the decision-making basics in rank spearman correlation tests: 1) If the value is significant  $<0.05$ , therefore, it can be concluded that there is a significant correlation between the two variables; 2) If the value is significant  $>0.05$ , therefore, it can be concluded that there is no significant correlation between the two variables.

The relationship between variables is stated through a correlation coefficient ( $r$ ). The interval of correlation coefficient ( $r$ ):  $-1 \leq r \leq 1$ . If the value of  $r$  is closer towards 1 or -1, it indicates the strength of the relationship between the variables. The closer the value of  $r$  is to zero, it indicates that there is a weak relationship. The positive symbol shows that the relationship corresponds, meanwhile the negative symbol indicates that the relationship does not correspond. Below are the following criteria for interpretation: 1) 0.00 – 0.20 indicates that there is nearly no correlation; 2) 0.21 – 0.40 indicates low correlation; 3) 0.41 – 0.60 indicates a moderate correlation; 4) 0.61 – 0.80 indicates a high correlation; 5) 0.81 – 1.00 indicates a perfect correlation.

The results of the observation, interview, and field FGD were then written in the form of detailed descriptions and direct quotations. The qualitative data was analyzed through interview transcriptions, material scanning, typing field data, or selecting and developing the data

into topic groups. This process is known as data reduction which is then followed by data interpretation. Within the data interpretation process, the qualitative data supports the quantitative data through the description and this is also supported by secondary data from various literature. At the final stage of the data analysis process, the data must go through a verification process. This verification stage is the last stage which summarizes the data from the data reduction stage. The verification is done by discussing the results of the processed data with the respondents, informants, and several experts.

## Results and Discussion

### *Background of Tourism-based Villages*

According to Regent's Decree No. 104 of the year 2008, the Raja Ampat government declared seven out of 24 villages as tourism-based villages that have breathtaking beauty that are collaboratively managed, therefore worthy of becoming tourist destinations. Those tourism-based villages of Arborek, Saundarek, Yenwaupnor, Sawinggrai, Yenbuba, Friwen, and Saporkren, Saundarek, Yenwaupnor, Sawinggrai, Yenbuba, and Saporkren are located within the Dampier Strait and within Meos Mansar District, Raja Ampat. Several interesting tourism potential that can be found in Raja Ampat are shown in Figure 1.

The Regional Development Planning Board of Raja Ampat (2010) stated that Dampier Strait has coral reef resources as potential which can be further developed as Raja Ampat Marine Tourism Destination. With regard to spatial planning, the Dampier Strait region has also been declared a semi-intensive zone which is an area designed to accept visits from tourists on a smaller scale with limited and specific tourist activities such as animal observation, forest exploration, diving, snorkeling, and kayaking, while also providing enough space for resorts with a maximum of two stories high, and a limited number of rooms and limited homestay development. Marine tourism activities that are available in all three tourism-based villages



Figure 1: Tourism potential in Raja Ampat

Source: Primary Research Data

include snorkeling, diving, swimming, fish feeding, and boat tours. Activities such as swimming require the swimmers to use a buoy and swim in a minimum depth of 1.5 meters to avoid stepping on and damaging the corals. Each activity has its code of conduct which must be followed by all tourists and locals who operate the tourist attractions.

### ***Characteristics of Respondents***

Table 2 shows that from a total of 90 respondents, 51 are males (56.7%). The majority of the respondents are aged between 31 - 40 years old, with a total number of 24 respondents (26.7%). The majority of the respondents' education level is categorized as low with a total of 32 persons or 35.6 percent graduating only from elementary school.

The majority of the respondents' ethnic group is of pure Raja Ampat origin (Biak Betew or Beser ethnicity) with a total of 71 respondents or a total percentage of 78.9 percent. The majority of the respondents originate from Raja Ampat, however, the majority of the respondents do not originate from the area of their current residence but migrated from other parts of the Raja Ampat region. This is indicated by the respondents whose residence within the research location is around one to ten years with a total of 25 respondents (27.8%). As many as 69 (76.7%) of the respondents' livelihoods rely mainly on tourism, as local tourism operators.

As tourism operators, their work includes operating homestays, as tour guides, as helmsman, handcraftsman, and providers of snorkeling and diving equipment rentals. The majority of the respondents have been occupied in these fields for around one to ten years with a total number of 78 respondents (86.7%). This is due to tourism development in Raja Ampat over the past ten years and which results in an increase in the number of local tourism operators. The following characteristics of the respondents are shown in Table 2.

### ***Level of Access to Tourism Resources***

Access is the ability to obtain benefits from all aspects, including material objects, individuals, institutions, and symbols (Ribot & Peluso, 2003). Ribot and Peluso (2003) observed a certain network of access which created the possibility for a party to map out the access relationship process with resources to obtain profit and benefit within the management system. Some research findings identify that marine tourism and small island tourism have natural and cultural attractions that benefit many parties (Cheng *et al.*, 2013; Nadzirah *et al.*, 2020; Fathilah *et al.*, 2020).

The outcomes of the benefits mapping flow within the marine ecotourism management indicate that there are several benefits that the locals, government, and private sectors obtain. First, the tourism potential in the form of natural and cultural potential can be directly enjoyed by

Table 2: Characteristics of respondents

Category	Frequency (n=90)	Percentage (100%)
Sex		
Male	51	56.7%
Female	39	43.3%
Age		
20 – 30 years	22	24.4%
31- 40 years	24	26.7%
41- 50 years	23	25.6%
51- 60 years	12	13.3%
>60 years	9	10.0%
Education		
Unschoolled	1	1.1%
Elementary School	32	35.6%
Junior High School	18	20.0%
Senior High School	31	34.4%
Academic Diploma	8	8.9%
Ethnicity		
Immigrant	19	21.1%
Raja Ampat Origin (Biak Betew/ Beser)	71	78.9%
Length of Residency (years)		
1-10	13	14.4%
11-20	10	11.1%
21-30	13	14.4%
31-40	14	15.6%
41-50	10	11.1%
51-60	5	5.6%
>60		
Main Occupation		
Gardener	1	1.1%
Educational Staff	1	1.1%
Labourer	1	1.1%
Fisherman	8	8.9%
Trader	6	6.7%
Tourism Operator	69	76.7%
Governmental Staff	4	4.4%
Occupation Timespan (years)		
1-10	5	5.6%
11-20	0	0%
21-30	4	4.4%
31-40	3	3.3%
>40		

Source: primary research data

the local tourism operators. The locals obtain income from the tourists who enter the village, such as in the form of accommodation rates, snorkeling and diving equipment rentals, tour guide services, speedboat and longboat rentals, handicraft sales, traditional dance performances, small shops, etc. The flow of benefit that the local tourist workers obtain is in the form of increased and stable income compared to the income as a fisherman. For the locals who do not work as tourist workers, the majority of them enjoy the natural environment specifically the marine resources as a source of income and daily consumption. All fishing activities are conducted in sustainable fishing and cultivation subzones.

Second, even though there are several Regent Decrees which prohibit private sectors in building (setting up) businesses in the tourism-based villages, there are still private sectors that illegally create businesses such as in Arborek Village and diving centers which are owned by foreigners in Yenbuba Village. For the group of private individuals listed in the Tourism Agency of Raja Ampat and who have become members of the Recreational Boat Network (*Jangkar*), it was declared that these businesses are legal. There are 40 live aboard businesses which are listed by the Tourism Agency of Raja Ampat and are members of the Jangkar association. Several of these private sectors obtain economic profit from their businesses.

Third, the potential of tourism has brought a flow of benefits to regional development which is directly managed by the local government. This flow of benefits is indicated within the tourism sector's contribution to the GDP. The government department, the Technical Implementation Unit of the Regional Public Services Agency (*Unit Pelaksana Teknis Badan Layanan Umum Daerah/ UPT BLUD*) is the technical operations unit which charges retribution fees in the form of Environmental Services Fee Card (*Pin*) to tourists. For foreign tourists, the total fee is Rp1.000.000/person/year and for domestic tourists, the total fee is Rp500.000/person/year. In 2016, the total income from *Pin* reached

a total of Rp8.595.500.000 (the Cultural and Tourism Agency of Raja Ampat, 2017; Nuraini, 2019).

Ribot and Peluso (2003) explained that there are eight bundles of power that could influence the accessibility to resources which consist of power, technology, capital, market, workforce, knowledge, authority, social identity, and social relations. Based on the results of the research, the community's levels of access are categorized as low and moderate levels towards the tourism resources which is related to the power that they own (Table 3).

In Table 3, the results show that based on the power of technology that the community possesses, the levels of access towards tourism resources are categorized as low with a total average of 1.93. This is because only a small number of community members possess skills in operating technology such as speedboat, longboat, diving equipment which are facilities provided for tourists. The low levels of access to the power of technology utilization are also related to low capital possession. This is also stated in the following statement from an informant:

*“Not many of the locals own their boats here (in the tourism village). Speedboats or longboats are usually the property of those who also own homestays and work as a fisherman. More locals own longboats compared to speedboats due to the affordable prices of longboats. The number of locals who own boats here is still very limited due to the large capital required to purchase a boat. Owning a longboat with a 15PK machine needs a minimum capital of 25 million rupiahs”*

(DM, 67 years old, homestay owner).

The average level of community access regarding the power of capital is 1.70. The low levels of access regarding the power of capital are caused by the limited capital that the community owns such as land or economic capital. The levels of community



access regarding the power of the market are categorized as moderate with a total average of 2.21. This is caused by the fact that the community, specifically the tourism operators, has conducted product marketing and tourism services to attract tourists through collaboration with the Raja Ampat Homestay Association, tour and travel agents, website booking.com and social media. Tourists often book their trips through the [www.stayrajaampat.com](http://www.stayrajaampat.com) website which is managed by the Raja Ampat Homestay Association. The members of the association must pay a fee to fund the advertisements on the website. For members who do not pay the fee for more than three months will undergo the consequence of not having their homestay advertised on the website. This is supported by the following statement from an informant:

*“Homestay Bubara has been sealed because they never pay the fee to the association. They can't pay because they never received any guests. I think we should only be obliged to pay the fee if we get guests. But the association members say that we have to pay the fee for renting the website and for training programs”*

(PM, 59 Years, homestay owner).

Moving on to the levels of community access regarding the power of the workforce, the average level of access is 2.27 (categorized as moderate). Access through labor is access obtained through working relationships with people who own the resources (Ribot & Peluso, 2003). At the level of community access through the authority of knowledge, the value is high with an average of 2.34. The community has mastered the knowledge through socialization and training which is often conducted by Conservation Internasional as a non-governmental organization, the Cultural and Tourism Agency of Raja Ampat, local figures, and figures from the local churches. Socialization and training which is conducted cover knowledge on resource management and the environment including tourism development. Knowledge helps the local community in

understanding the development of a homestay business and good management.

The levels of access regarding the power of authority reached an average level of access with an average score of 1.28 and are categorized as low. Those who possess authority are very small in number, and this consists of those who have a position in the government or are known as local figures. The levels of community access regarding the authority of social identity are categorized as moderate with an average of 2.08. This is due to the majority of the community who originate from Raja Ampat as their social identity and is considered strong. There are several religious figures and local figures who effectively strengthen the homogeneity relationship of the local community. The relationship between social identity authority with access towards resources is due to the land ownership which is only owned by those who are of Raja Ampat origin and the workforce who are included within the management are relatives who come from the same ethnicity.

The average level of community access through social-relational power is an average of 1.64 (categorized as low). There are several Manta workgroups and Raja Ampat Mooring System which describe the social relation between the community, government, NGO, private sectors, and academicians in marine ecotourism management. However, only a small number of community members join these workgroups. The majority of the social relation implemented in the community is the relation of gaining tourists through tour and travel agents and the Raja Ampat Homestay Association. The relation built between the homestay owner and the travel agents is viewed as beneficial for the homestay owners. This is based on the information from the owner of Mawar homestay which is stated in the following statement:

*“Sometimes the travel agents give us guests, we get a minimum of one group of guests every month. The group usually consists of 4 - 6 people and stay for about a week. This is the number of guests we typically get from one travel*

Table 3: Levels of community access based on the power that they possess

Power	Levels of Community Access			
	Average	Deviation Standard	Rank	Category of Access
Technology	1.88	0.83	5	Low
Capital	1.70	0.66	6	Low
Market	2.21	0.85	3	Moderate
Workforce	2.27	0,76	2	Moderate
Knowledge	2.34	0.77	1	Moderate
Authority	1.28	0.54	8	Low
Social Identity	2.08	0.88	4	Moderate
Social Relation	1.64	0.75	7	Low
Total Average Bundle of Power	1.93	0.75	-	Low

Source: Primary Research Data.

*agent. The number of partnerships with travel agents varies from one homestay to another, some homestays only work with one travel agent, others can work with up to five different travel agents. But there are also two or three homestays that don't work with any travel agents, so they don't get as many guests."*

(NM, 34 years, homestay owner).

Overall, the levels of community access through the bundle of power indicate that the levels of access are categorized as low with a total average of 1.93. Therefore, several things should be taken into concern to increase the level of community access for the community so that the benefit of tourism can be distributed fairly. According to Taylor (2000), access justice can be achieved through procedural (involvement), substantive (according to their rights), and distributively (equal distribution).

The results of the rank spearman correlation test indicate that there is a correlation between the level of access and the institutional performance of marine ecotourism management, with a significant value of 0.000. The correlation coefficient value which is obtained is 0.407,

which indicates that the level of correlation between the level of access and the institutional performance of marine ecotourism management is categorized as moderate. The relationship is proven from the access through the market, knowledge, and social identity owned by the community which creates an opportunity for them to be involved within the institution of marine ecotourism management. As an example, in this case, it is known that before the development of ecotourism in the tourism village, the tourism community often carried out garbage disposal or marine waste, shark fishing, and other illegal fishing. However, after the development of ecotourism, they have contributed greatly to protecting the sea because natural preservation is a tourist attraction. Rank spearman correlation tests result on the levels of access towards the performance of marine ecotourism management institutions is shown in Table 4.

#### ***The Institutional Performance of Marine Ecotourism Management.***

According to Ostrom, an institution has rules, norms, and strategies in directing collective actions and is used to determine who fulfills the conditions and who makes the decisions in

Table 4: Rank spearman correlation tests results on the levels of access to the institutional performance of marine ecotourism management

			<b>Levels of Access</b>	<b>The Institutional Performance of Management</b>
Spearman's rho	Level of Access	Correlation coefficient	1.000	0.407**
		Sig. (2-tailed)	-	0.000
		N	90	90
	The institutional performance of management	Correlation coefficient	0.407**	1.000
		Sig. (2-tailed)	0.000	-
		N	90	90

\*\* Correlation is significant at the 0.01 level (2-tailed).

which areas, and determines which actions to do or limit (Ostrom, 1990; Satria, 2009; Fidelman et al., 2012). Stronza and Pegas (2008) explained that by strengthening the institution or local institution in ecotourism management through local knowledge that the community owns as an instrument could reach overall social and economic stability.

In marine ecotourism management, it is important to be facilitated by correct management and institution to contribute to the conservation of natural resources and increase the welfare of the community sustainably. The ecotourism institutional performance is measured through resource management institutional performance indicators of Ostrom (1990) and Satria (2009). These indicators consist of: 1) clear territorial borders; 2) correspondence between the regulations and local conditions; 3) regulations arranged and managed by the resource users; 4) the presence of a local institutional; 5) the supervisors well respected by the community; 6) sanctions applied; 7) conflict resolution mechanism; 8) strong recognition from the government; 9) presence of a bond or network with an outside institution. Based on these indicators this research analyzes several additional indicators. The following indicators and results are shown in Table 5.

According to the results of the institutional performance indicator measurements, the results in all three tourism-based villages indicated strong with an average of 2.20. The strong institutional performance of marine ecotourism management in Raja Ampat village was obtained due to the following factors:

1. Clear territorial borders.

The locals have strengthened their efforts in conservation by forming village regulation in the form of a Marine Protection Area (*Daerah Perlindungan Laut/DPL*) declaration. The DPL term differs between villages, which are: DPL Indip and DPL Mambrayub in Arborek; DPL Warasmus in Yenbuba; and DPL Mansaswar in Sawinggrai. The majority of the community understands and respects these borders which are supported by the installation of buoys. This is stated in the following statement from KS, aged 30, who works as a fisherman:

*“The locals must already know which areas are prohibited to be used for fishing. If we want to fish, we must fish away from the village waters because this area has also become a tourist attraction so we are not allowed to catch any fish in the tourist village waters.”*

Table 5: Levels of the institutional performance of marine ecotourism management

Indicator	Levels of Institutional Performance			
	Mean	Deviation Standard	Rank	Performance Category
Clear Territorial Borders	2.13	0.67	6	Robust
Correspondency between regulations and local conditions	2.00	0.54	8	Robust
Regulation arranged and managed by the users	2.11	0.55	7	Robust
Presence of local institution	2.58	0.50	2	Robust
Community participation within the planning	2.03	0.73	9	Robust
Community participation within the implementation	2.36	0.66	3	Robust
Supervisors well respected by the community	2.71	0.46	1	Robust
Sanctions applied	2.26	0.68	5	Robust
Conflict resolution mechanism	2.30	0.55	4	Robust
Strong recognition from the government	1.99	0.59	11	Fragile
A bond or network with outside institutions	2.02	0.52	10	Robust
Total average of all indicators	2.21	0.57	-	Robust

2. Correspondence of regulations and the local condition.
3. Regulations are arranged and managed by the users.

In Regional Regulation No. 27 the year 2008, the waters of the tourism-based villages have been declared part of the food and tourism security subzone, sustainable fishery and culture subzone, and indigenous utilization subzone. Far from the prior regional regulation, the tourism-based villages are now declared as fishing prohibition zones. This is implemented due to the waters being fish spawning areas. The chief of the Arborek tourism village stated:

*“The fishing limitations have been established since the time of our elders (around the 1930s), and is commonly known as sasi or prohibition. Based on local wisdom, sasi is viewed as a method to increase the amount of fish production.”*

Each tourist activity has its code of conduct which was initiated and discussed by the locals and the Conservation Internasional Indonesia as an NGO. The general rules within the village are also discussed by the locals and assisted by the Village Discussion Forum. Based on several interviews, several informants stated the following village regulations: 1) fishing prohibition; 2) prohibition of stepping on corals; 3) littering prohibition; 4) prohibition of jumping from jetty; 5) prohibition of building toilets which directly channel the sewage to the sea etc.

4. The presence of a local institution.

The presence of a local institution within the Raja Ampat tourism management is

directly below the Raja Ampat Homestay Association. Based on the results of the focus group discussion with the Raja Ampat Homestay Association, the association aims to regulate the management mechanism, create rules, organize the homestay activities and accommodations, create an easier exchange of information among members, set up educational media, a forum to carry out sustainable tourism and strengthen the management institutional. The members of the association help market the homestays through the website [www.stayrajaampat.com](http://www.stayrajaampat.com).

5. Community participation within the planning stage.

It is necessary to include effective community participation and a fair distribution of benefits to achieving sustainable tourism (Vagasi, 2004; Rishi & Upaydhay, 2013) and to ensure community participation within the establishment of the area for marine conservation of Raja Ampat. The community was involved in the Raja Ampat conservation development strategy workshop which was held from 11-13 December 2003 and known as the Tomolol declaration. After the creation of the conservation development strategy in 2006, the declaration was held again to establish the conservation areas (known as the *Waiwo* declaration). The community was not only involved but also played the role of the decision-makers for both declarations. An informant who is a staff of Conservation International Indonesia stated that *“The locals have the indigenous right as an authority which is also recognized by the government, therefore, showing that the community participation has quite an impact.”*

6. Community participation within the implementation stage.

The majority of the village community was involved in the implementation of the conservation and marine

ecotourism management and worked as tourism operators such as providers for accommodation, travel packages, snorkeling and diving equipment rentals, speedboat and longboat rentals, tour guide services, noken handicraft merchants, kayafy of handicraft merchants, and traditional dance performers. The level of conservation awareness among the community also increased along with the development of tourism. This is because the community believes by protecting the environment, they can attract tourists. Informant OM (32 years old, a handicraft maker) stated:

*“I and the other locals actively participate in maintaining and supervising the sea’s condition so that it does not become damaged. If any tourists step on the corals we give them a warning, and if any are found throwing trash into the waters we directly scold them”.*

7. Sanction implementation.

Sanctions that are implemented within the tourism villages, if any violations occur, are in the forms of social, administrative, and economic sanctions. If members of the community know of any violation, they directly report to the head of the village so that the violator is given a sanction. If they violate a rule they are given a warning if they violate a second time they are obligated to do community work for one full day, and if they violate for the third time they will be reported to the authorities. There is also a sanction in the form of a fine. This is according to the following statement of an informant:

*“The locals who catch fish here (in Arborek Village) are given three warnings. More than three violations will be prosecuted with a customary sanction or fine. The fine is often added with community service in the village”*  
(EM, 36 years, tour guide)

8. Conflict resolution mechanism.

Conflicts that have occurred in tourist villages are caused by communal land ownership which is considered unclear ownership. Communal ownership conflicts are resolved by customary conflict resolution mechanisms, namely by bringing in customary leaders who have knowledge regarding the land boundaries and possess power based on the communal ownership system. The mechanism has been institutionalized, marked by the knowledge, understanding, and compliance of the communal ownership management system by members of the customary community.

*activities of the workgroup consist of building manta guardhouses, and monitoring and evaluating the manta points. We coordinate through WhatsApp groups regarding the work programs.”*

9. Bond or network with outside institutions.

Within ecotourism management, there are two workgroups which are collaborative work programs between the local community, Conservation International Indonesia, government, private sectors, and academicians (Papua University). The two workgroups are the Manta workgroup and Raja Ampat Mooring System (RAMS). One of the staff from Conservation International Indonesia informed me that:

The Rank spearman correlation results indicate that the level of the institutional performance of marine ecotourism management is correlated towards the level of marine ecotourism sustainability with a significant value of 0.000. The correlation level is categorized as moderate with a correlation coefficient of 0.531. This is caused by institution which has been built to carefully pay attention to the sustainability aspects, specifically the ecological, social, and institutional aspects. Results of the rank spearman correlation tests on the institutional performance of marine ecotourism management towards marine ecotourism sustainability is shown in Table 6.

**Levels of Ecotourism Sustainability**

The development of sustainable tourism must be based on actual analysis regarding the ecological, social, and economic conditions along with the related institutions (Rydin *et al.*, 2003). Based on the level of sustainability analysis which includes the ecological, social, and economic

*“Manta Work Group and RAMS are a part of the program as an effort for the conservation in Raja Ampat. The*

Table 6: Results of the rank spearman correlation tests on the institutional performance of marine ecotourism management towards marine ecotourism sustainability

			<b>The Institutional Performance of Management</b>	<b>Sustainability Level of Marine Ecotourism</b>
Spearman's rho	The institutional performance of management	Correlation coefficient	1.000	0.531**
		Sig. (2-tailed)	-	0.000
		N	90	90
	Sustainability level of marine ecotourism	Correlation coefficient	0.531**	1.000
		Sig. (2-tailed)	0.000	-
		N	90	90

\*\* Correlation is significant at th

dimensions, the level of sustainability of Raja Ampat marine ecotourism falls into the corresponding category with an average score of 2.2. This average score is explained in Table 7.

Based on Table 7, the level of sustainability in the ecological dimension is scored as corresponding with an average score of 2.23. This is because the waters of the Raja Ampat marine ecotourism fall into the conservation area where sufficient efforts in conservation have been made and are valued as effective. The community, as the key actor in conservation efforts, have enough awareness and care for the environment. They participate in reminding each another in these matters and supervising all tourist activities. An informant who is a staff of the Cultural and Tourism Agency of Raja Ampat stated:

*“The government has made the tourism sector as an economic growth sector in Raja Ampat and is committed to implementing sustainable tourism. Nowadays, the community is also aware of the importance of nature conservation and that the natural condition of the area has become the main tourist attraction.”*

The concept of carrying capacity also minimalizes the environmental effects by controlling the number of tourists (Mastura et al., 2015; Juvan & Dolnicar, 2020). The number of tourists in Raja Ampat in 2017 had a total of 23.141 tourists (UPT BLUD, 2018). This number did not go over the carrying capacity. Corresponding to the carrying capacity, the number of visitors per year with a total of ten activities in fifteen locations in Raja Ampat was 91.275 people (Nikijuluw et al., 2017). The carrying capacity of activities such as snorkeling, diving, and swimming in Dampier Strait were 3.300, 12.180, and 21.420 visitors per year respectively. However, for the fish feeding activities done by the tourists did not follow the regulations. Even though the locals continuously reminded the tourists, the tourists continuously fed the fish outside of their feeding hours and the food that was fed was unnatural.

Feeding the fish outside of the hours allowed i.e., 3.00 - 6.00 p.m. and giving them unnatural feed will destroy the food chain. Levels of marine ecotourism sustainability in Raja Ampat tourism villages are shown in Table 7.

The average for the levels of sustainability of the social dimension is 2.48 and categorized as appropriate. This is due to the high homogeneity bonds within the community, creating an appropriate cooperation relation. If a conflict occurs, it can still be resolved in a family-like matter, through tribal ways or the church. One of the informants PM (58 years, homestay owner) stated, *“any decision made by the chief of the tribe must be obeyed, this is because the chief is viewed as an honorable member of the community”*. Furthermore, the community does not yet feel a fade in their tradition with the entrance of tourists. The community gave rules to the tourists to behave and dress according to their rules. Informant MM (36 years, a dive shop owner) stated,

*“There are many foreign tourists here but we (the locals) always inform them to obey the rules of the village such as the prohibition of alcoholic drinks in public areas, the prohibition of women smoking in public areas and to always dress in modest clothing within the village areas.”*

Community participation within marine ecotourism management affects the appropriateness of the social dimension. The development of sustainable tourism can only be implemented by implementing good governance which involves active participation and balance between the government, private sectors, and the community (Bater et al., 2001). Participation can occur if the individuals have an opportunity in obtaining access. Kinseng et al. (2018) stated that the government has an important mediatorial role in guaranteeing residents' right to practice their livelihood activities.

The development of ecotourism in the tourism-based villages has created an impact on the welfare and income for the community. However, the majority of the community still

Table 7: Levels of marine ecotourism sustainability in Raja Ampat tourism villages

Sustainability Dimension	Levels of Sustainability of Marine Ecotourism		
	Average	Deviation Standard	Sustainability Category
Ecological Dimension	2.23	0.61	Appropriate
Suitability of water conditions for snorkeling	2.54	0.67	Appropriate
Suitability of water conditions for diving activities	2.57	0.58	Appropriate
The number of visitors snorkeling does not exceed the maximum visit limit	2.52	0.57	Appropriate
The number of visitors diving does not exceed the maximum visit limit.	2.50	0.57	Appropriate
The number of visitors who swim does not exceed the maximum number of visits.	2.49	0.57	Appropriate
Fish feeding is done according to the schedule.	1.48	0.64	Inappropriate
The fish feed used corresponds with the rules and is natural not manufactured.	1.29	0.50	Inappropriate
Endemic species are still visible around aquatic areas.	2.17	0.67	Appropriate
Availability of freshwater from the shoreline	2.29	0.77	Appropriate
The absence of harmful biota	2.59	0.49	Appropriate
Cleanliness of the village environment	2.13	0.67	Appropriate
Social Dimension	2.48	0.52	Appropriate
Conflict of Interests	2.74	0.44	Appropriate
Collaboration within management	2.02	0.54	Appropriate
Survival of local cultures	2.43	0.74	Appropriate
Safe environment	2.81	0.42	Appropriate
Community participation within the management	2.18	0.63	Appropriate
Support for the development of ecotourism	2.47	0.52	Appropriate
Behavior towards the presence of tourists	2.94	0.23	Appropriate
Knowledge of environmental management	2.12	0.73	Appropriate
Obedience towards rules	2.51	0.55	Appropriate
Easy accessibility to the village	2.26	0.49	Appropriate
Change in welfare since the development of ecotourism	2.81	0.39	Appropriate
Economic Dimension	1.75	0.68	Inappropriate
Increase in the number of tourists	2.31	0.81	Appropriate
Increase in the levels of income	2.30	0.66	Appropriate
Ownership of capital to develop a business	1.68	0.63	Inappropriate
Sufficient amount of homestays for tourists	1.56	0.69	Inappropriate
Boat ownership as a mode of transportation	1.44	0.64	Inappropriate
Snorkeling equipment ownership as tourist facilities	1.41	0.67	Inappropriate
Total average of dimensions	2.20	0.59	Appropriate



have limited capital. The economic dimension is categorized as inappropriate, with an average of 1.75. This average is affected by the low levels of capital ownership for developing businesses, limited ownership of homestays, boats, and other supporting facilities. The chief of the Raja Ampat Homestay Association stated *“There has been previous capital assistance from the tourism agency and local government, however, the amount of the assistance was limited and cannot be equally distributed to the community”*.

### **Conclusion and Recommendations**

Tourism in Raja Ampat continues to grow which is indicated by an increase in the number of incoming tourists. However, the community remains to have low levels of access to tourism resources. Increased community access to tourism resources is necessary and supported by the government through increased access to technology, capital, authority, and social relations. Access justice can be achieved through community involvement, according to community rights, and equal distribution. Access owned by the community can provide more opportunities for them to be involved within the institution of marine ecotourism management.

The authors further developed the strategy of access justice to sustainable development marine ecotourism in Raja Ampat. First, there is a need for equal capital distribution aid to help members of the community develop their businesses, through the distribution of boats, grant funds or loans and homestay facility aids. According to the Raja Ampat Regent Regulation Number 18 the Year 2014, there is an environmental service maintenance fee that has been declared by the state. The allocation of this fund is crucial to be distributed in a just and transparent manner.

Second, the marketing fee collection system must be clear and fair. The majority of the community who are involved in tourism market their products and services on the website [www.stayrajaampat.com](http://www.stayrajaampat.com) which is managed by the Raja Ampat Association. Those who market the

homestay on the website must pay a fee to the association, and it is very common for this fee payment to become problematic. Therefore, it is important to uphold regulations correspondingly towards the initial agreement regarding the amount of fee that must be paid with a clear foundation.

Third, ecotourism should be the priority of development to obtain the workforce. Furthermore, it is necessary to conduct periodic assistance to ensure the quality of human resources through training.

Fourth, strengthen the homogeneity bond within the community. Higher level of homogeneity, will also increase teamwork between the community members. Strengthening the homogeneity bond can be formed through the local figures and social identity.

Lastly, marine ecotourism collaboration-based management is an effort for the management and development of marine ecotourism and it is important to develop social relations and include all stakeholders such as the local community, government, private sectors, NGOs, and academicians. The community specifically must become a subject, not only as an object within the management and development of marine ecotourism.

The correlation level between the level of community access and the institutional performance of the marine ecotourism management falls into the moderate category. The theoretical implication towards this is that access owned by the community can become a tool to bring opportunity to those who actively contribute towards the institutional performance of the marine ecotourism in Raja Ampat tourism village. However, there are other factors which influence the institutional performance of the marine ecotourism in Raja Ampat tourism village which consist of 1) clear territorial borders; 2) correspondence of rules with local conditions; 3) rules arranged and managed by resource users; 4) the presence of local institutions; 5) community participation in management planning; 6) community

participation in management implementation; 7) supervision respected by the community; 8) the imposition of sanctions; 9) conflict resolution mechanisms; 10) a bond or network with an outside institution.

The level of ecotourism sustainability which is an accumulation of sustainability from the ecological, social, and economic dimensions is stated as appropriate (average 2.20). The ecological and social dimensions are stated to be appropriate. The community as the key actor in conservation efforts, have enough awareness and care for the environment and participate in reminding one another and supervising all tourist activities. However, the economic dimension is declared to be inappropriate. This is affected by the low levels of capital ownership for developing businesses, limited ownership of homestays, boats, and other supporting facilities.

Therefore from the results above, this study provides significant insights for various stakeholders in providing multidimensional sustainability strategies for marine ecotourism (ecological, social, economic, and institutional). However, the results and analysis of the research must also consider the following limitations. First, the area of research is limited to small islands, therefore, the generalization of the results is limited to a specific population in a specific area. Furthermore, the research is based on community samples that tend to have homogenous characteristics such as ethnicity, religion, and culture. Therefore the analysis may differ from those of a heterogeneous community.

However, the findings within this research are significant for the management of marine ecotourism in tourism villages which give insight on the access strategy and strengthening of the institutional performance, factors that must be taken into consideration by all stakeholders. In addition, this research provides an overview of the sustainability of marine ecotourism which is examined from an ecological, social, economic, and institutional perspectives, which provides input on the aspects that need improvement to maintain the sustainability of marine ecotourism.

For future research, an institutional model evaluation for assessing the institutions, problem, needs, and strategy program in ecotourism management can be conducted. The basic principle is to effectively identify the structure within the system to assist the regulators for effective decision making. Several methods such as Interpretative Structural Modelling (ISM) for the assessment can be employed. ISM is a tool for strategic planning which involves a vast relationship between various institutions, obstacle identification, necessities, and strategic programs in the management to develop an effective decision-making system.

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