

## Research Article

# Application Multicriteria Decision Making in Analysis Of Inequality And Cultural In Sade

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Sade Village is a village located in eastern Indonesia, precisely in Rembitan, Pujut, Central Lombok Regency, West Nusa Tenggara which is inhabited by the Sasak tribe. The Sade tribe has unique activities including ikat weaving, carving and Peresean art, as well as a unique culture called "Marriage Cultivation". So many uniqueness in this area, but the problem are many of the human resources in this village are less interested in technology, so the inequality in tourism development models is very far from Bali. This paper use Multiple-criteria decision-making (MCDM) method, is one of the main decision-making problems which aims to determine the best alternative by considering more than one criterion in the selection process. MCDM has manifold tools and methods that can be applied in different fields from finance to engineering design. Based on the results of the analysis, it was found that the variables modernization, nutrition, taxes, infrastructure, health, religion, customs and family which are in the influence variable or driving quadrant are the main variables that determine the potential to overcome inequality. Economic potential and cultural uniqueness can be further enhanced to provide added value for the welfare of society.

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## 1. INTRODUCTION

Sade is a unique name for this village. Sade itself comes from Old Javanese which has two meanings, namely medicine and awareness. It is given the name medicine because in this village there is water which is said to be able to cure diseases. Ancient people came to Sasak Sade village to calm their hearts and souls and to get closer to God. Sade Village is a village located in eastern Indonesia, precisely in Rembitan, Pujut, Central Lombok Regency, West Nusa Tenggara. Sade Village itself is inhabited by the Sasak tribe, which is the largest of the three large tribes in West Nusa Tenggara. This village has an area of 5.5 Ha, where there are 150 traditional houses with one head of family in each house, and only has a population of 700 people (Sukenti et al., 2016). Sade Village has a quite strategic location, which is not far from Lombok International Airport and only requires a journey of approximately 17 minutes.

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So many previous research from Zhao et al, 2024; Koopman, 2023; and Sukenti et al, 2016 talk about activities carried out by the Sasak Tribe in Sade Village are also an attraction to attract tourists, including ikat weaving, carving and Peresean art. From an early age, girls are taught how to weave, spin thread and sew to create patterns on cloth. Carving art is activity where local people believe that the carved motifs have magical value and are usually used for traditional ceremonies, while Peresean art is a typical martial art from Sade Village for fighting dexterity and courage (Kawamoto et al, 1984). These three activities can certainly become a field for improving the economy of the Sade Village community as an attraction for tourists to visit the area.



Source : Author, 2019

**Figure 1:** Women in Sasak Sade Village Make Woven Cloth Traditionally.

Sade Village has enormous potential as a tourist village. The people in this village have a very strong culture and customs and still here to the culture of their ancestors, this can be seen from their way of life and daily activities which still implement the traditions of weaving cloth and planting rice. Not only that, their residence is divided into three types which are called bale and each type has a meaning. Traditional ceremonies and other traditional events are still carried out in accordance with the traditions of the Sasak tribe's ancestors (William et al., 2021).

Not only weaving, there is another natural potential that is the attraction of this village, namely houses made from cow dung as a substitute for cement. This has been a tradition passed down from generation to generation which is believed to make houses sturdy and avoid mystical disturbances, seeing the tourism potential in Sade Village makes this area always busy with foreign and local tourists, but strangely the transaction process in this village is still closed to technology. There is inequality and lagging behind in developing natural potential in Sade Village, one of which is the slow

use of financial technology, and for a guide they want to use technology in their daily lives as a transaction tool and communication medium, but traders in Sade Village are very reluctant and seem closed to technology. If you compare this condition with tourist attractions such as Gili Island, it is very different, because on Gili Island you can make payments using transfers and promote tourism using the social media Instagram and Facebook.

If we give a touch of creative industries such as Financial Technology, it will further increase economic potential. Overall, the creative industry is proven to play a significant role in the national economy by making a significant contribution to average gross domestic income of around 7.1% of GDP. The arts and culture-based creative economy in 2013 was able to absorb a workforce of 7.06 million people or 59.4% of the total workforce absorption in the national industrial sector. The absorption of labor in the creative arts and culture economy is dominated by the culinary and crafts industry group. The growth in labor productivity in the Arts and Culture-Based Creative Economy sector grew by 0.53% in 2013 (Kemenparekraf, 2014). Sade Village is a village that can be said to be less open or slow in modernization that is taking place throughout the world, especially Indonesia. Every corner and story has a unique value that will later be able to provide added value and income for Sade Village itself. The unique thing and unmodern ways to payments or transactions here are still made in cash, for those who have bank accounts they still don't believe in technology-based payments. The people of Sade village do not have sufficient means to store money in the bank. For example, the people of Sade Village do not have the means to save at the bank because of the long distance from the city center, and according to them the amount of money they save is very small, so it is better to use it for daily transactions. Payments via electronic money have been socialized in Sade Village, but people are reluctant to use this, this is because the process of getting the money into their hands takes quite a long time and the fear of transactions not being recorded and not being entered into the system is also a cause why the people of Sade Village are still primitive in terms of using electronic money.

## 2. Ramses-Cass-Koopmans Theory of Human Capital and Knowledge (RCK)

Romer is an economist who coined a new theory of economic growth or what is known as endogenous theory, where there are growth determinants that are used as endogenous variables in this model, known as endogenous growth. He stated that the basic source

of economic growth is human capital (Nurkholis, 2020). According to Romer, in human capital theory, humans are capital like land, machines and so on. Romer defines human capital as visible from the abilities and skills possessed by someone who in this case is categorized as a worker. This can be interpreted that conventionally, the quality of human capital is something that is valued in itself (Nurkholis, 2020).

This new growth theory is expressed in the following equation:

$$Y = AK$$

Information :

$A$  = Technology

$K$  = Physical capital and human resources

From the equation above, it can be assumed that investment in physical capital and human capital plays a role in long-term economic growth and makes public policy have its own role in spurring economic development carried out through direct or indirect investment. The Ramses-Cass-Koopmans (RCK) theory is a neo-classical model of economic growth which was originally the idea of economist Frank P. Ramsey which was later redeveloped by David Cass and Tjalling Koopmans.

The Ramsey-Cass-Koopmans model starts with an aggregate production function of the Cobb-Douglas type which uses capital, labor, and technology-adding labor factors. In this case, labor is assumed to be equal to population in an economy that grows at a constant rate. This also applies to the level of technology which is growing constantly as well. The first key equation of the Ramsey-Cass-Koopmans model is the law of motion for capital accumulation:

Where  $K$  is capital intensity (capital per worker),  $\dot{K}$  is the change in capital per worker over time ( $t$ ),  $c$  is consumption per worker,  $f(k)$  is output per worker, and  $\delta$  is the rate of capital depreciation. Based on the simplifying assumption that there is neither population growth nor an increase in the level of technology, this equation states that investment, or increase in capital per worker, is the portion of output that is not consumed, minus the rate of capital depreciation. Investments are therefore the same as savings. This also results in potentially optimal growth model conditions, in which, i.e. there are no (anymore) changes in capital intensity. Where  $I$  is the investment level,  $Y$  is the income level and  $s$  is the savings rate, or the proportion of income saved (Ryansan, 2014).

### 3. Previous Research

Sade Village has economic potential which provides benefits especially for its residents, including opening up employment opportunities (new jobs) from the tourism sector and additional income. Apart from that, this village also has intangible benefits such as cultural preservation, which means that the unique culture that Sade village has can provide economic potential in the tourism sector that needs to be preserved as well as food security from plants and natural products produced, namely vegetables and fruit. which means that the village community does not depend on the availability of consumer goods in traditional markets which experiences fluctuations (Sujarwo, 2019).

Sade Village has enormous tourism potential if managed and developed well. This is also supported by several supporting elements from the village. First, in terms of tourism potential, it is close to the Mandalika National Priority Area, Kuta Beach and Aan Beach. Second, Sade Village is located in an area which is a leading tourist area in West Nusa Tenggara Province. Third, the unique socio-cultural system in Sade Hamlet has great potential that can enrich the tourist experience beyond enjoying the nature of Lombok Island. Fifth, the original settlement pattern and land use of Sade Hamlet as well as the socio-cultural values under this environment will be an impressive tourist attraction. Sixth, government policies at various levels have supported the development of tourism in Sade Hamlet (Harapan Siregar, 2018).

The potential of Sade Village is based on the perceptions of domestic and international tourists who have visited and directly enjoyed the potential of Sade Village. Tourists say that there are 5 things that can be used as a point of view to see the economic potential of Sade village, namely, value, uniqueness, credibility, sustainability and suitability. These five things include the traditional buildings owned by Sade village, the authenticity of culture and language which is still maintained amidst the era of modernization, the meaning of Sade itself and the unity of life of the local community of Sade village. This has great potential to revive the economy of Sade village from the tourism sector which can attract domestic and foreign tourists (Elmansyah, Saufi, & Rinuastuti, 2021).

Sade village is unique in terms of earthquake-resistant traditional houses as well as various other cultural uniqueness such as the traditional dances of Sade village which can be used as an attraction for tourists. In terms of facilities and accessibility, Sade village has adequate facilities for tourists, such as hotels, restaurants and other facilities that can be accessed easily and the condition of all facilities is fairly good. The people of Sade Village are very open and welcoming to tourists who visit their village, and the

local people are aware of the business opportunities that exist in Sade Village. Not only that, this village has also been visited by various tourists from both within the country and abroad (Latif, 2016).

The tourism sector can also create jobs for local people and attract investors from within or outside the country to help develop tourism areas in the area. The tourism management strategy in the Sawarna Village tourist area is structuring the area of tourist activities, then holding outreach and skills training to the community to support tourism activities, improving accessibility to tourist areas, building and repairing infrastructure, providing and repairing facilities, providing information center counters for tourist areas and signs, paying attention to the carrying capacity of the area through limiting the number of tourists and finally establishing local regulations that regulate cultural values (Silvitiani, Yulianda, & Siregar, 2017).

Economic tourism growth shows an increase over the next 10 years, with a consumer surplus in 2024 in Tanjung Pasir of IDR. 547 billion and Untung Jawa Island amounting to Rp. 7.81 trillion. Integrated management needs to be carried out in order to achieve sustainability of tourist areas in the ecological, economic and social fields (Muflih, Fahrudin, & Wardianto, 2015).

Tourism development is essentially an effort to develop, utilize tourist objects and attractions to create sustainable tourism development. This can be done if a strategy and concept for developing space and existing tourism potential is prepared and developed well (Pramudia, 2008).

The Kuta Beach area is one of the marine tourism areas that is currently developing in Central Lombok Regency and has great potential for developing marine tourism, but its management has not been optimal to date. Therefore, economic, environmental and social studies are needed. This research aims to estimate carrying capacity (supply), estimate demand conditions and regional economic value, as well as formulate policy strategies for sustainable marine tourism development on Kuta Beach, Central Lombok (Rahmatika, Kusumasthanto, & Sadelie, 2017).

## 4. Method

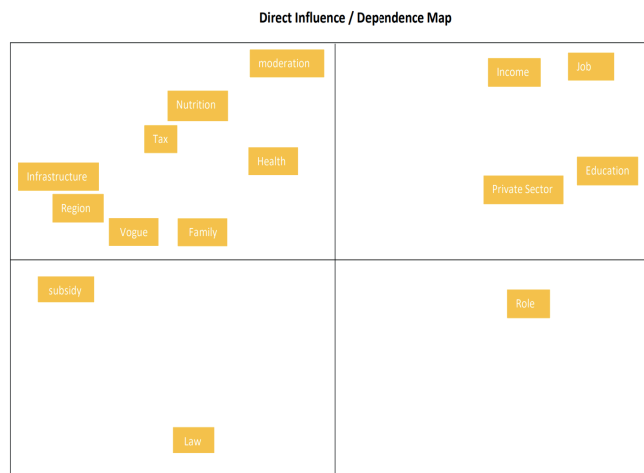
This research uses data analysis for decision making which can formulate a new policy to solve a problem. Apart from that, there were 80 respondents who participated to provide input on the data used as analytical data in this research, consisting of traditional policy makers, the government local residents, local and international residents and tourists, the data collection method is using FGD (Forum Group Discussion) and to

process the data in order to obtain good policy formulations, the data is processed using sustainability analysis techniques processed by MICMAC (Cross Impact Matrix Multiplication Applied to) software. Classification.

Micmac is software developed by the Institut d'Innovation Informatique por l'Enterprise, to update the structural analysis method (Ariyani & Fauzi, 2019). Through Micmac it can help in identifying sung, indirect influence and potential influence. Micromac analysis in the Matrix of Direct Influence (MDI) to determine the intensity of influence of each variable. MDI is the basic matrix for compiling the Matrix of Indirect Influence (MII) which shows the intensity of indirect influence of variables, and the Matrix Potential of Direct Influence (MPDI) which projects the intensity of influence of variables if system changes occur at a later time.

### 5. Result

The following are the results of the MICMAC analysis to determine what factors can influence the economic potential in Sade Village to increase and provide good income for Sade Village.



Source: Data processed by researchers, 2022

Figure 2: Direct Influence Map of MICMAC Analysis.

Based on the picture above, it is known that the variables modernization, nutrition, taxes, infrastructure, health, religion, customs and family which are in the influence variables or drivers quadrant are the main variables that influence increasing the economic and cultural potential in Sade Village. The nature of modernization that can be adapted by the local community can make it easier for them to adapt to developments,

for example, for sales they can use e-commerce. Apart from that, it is important for the health service to also concentrate on providing knowledge and monitoring the nutrition of the local community to stimulate children's growth and development, tax and infrastructure which is a fiscal component that forms a region, if the local government is more willing to pay attention to the condition of the village and what infrastructure the village needs, then more tourists will come.

Regarding religion, customs and family, these are indeed very strong elements and are the attraction of the village itself to create a tourist village, but if there is no development and renewal then the village will easily be left behind and forgotten, because the uniqueness of the village is not developed or processed in such a way. For example, if regional uniqueness such as the abducted marriage tradition were made into a short documentary film or made into performance art for local and international tourists, this would definitely be more interesting.

It's sad to see that the color's income only depends on selling woven cloth and being a tour guide, because things like this don't guarantee the daily availability of large numbers of visitors. If only the concept of village development was changed to a tourist village in Bali, we could watch the show. Barong, Kecak, etc. of course Sade Village can become more advanced in terms of tourism.

The income, private sector, employment and education variables are in the relay variables quadrant, which are variables that are very sensitive and very unstable in increasing or growing regional potential, because the private sector has not yet played an important role in the formation of tourist villages, this gives the impression that the government is limiting things. the. Income, type of work and educational status are not the main things to stimulate village potential and measure village success.

In the depending variables quadrant there are rule variables which are variables that are affected by other variables. Regulatory variables are not determined unilaterally, but through a process and are very dependent on other forming factors. Meanwhile, the subsidy and penalty variables which are in the excluded variables quadrant are variables that have a relatively small influence on village potential and village uniqueness, moreover the main ones are related to village uniqueness and basic trust for village communities so that the government does not intervene too deeply. Regarding village community beliefs, they believe much more in ancestral rules than in local government regulations.

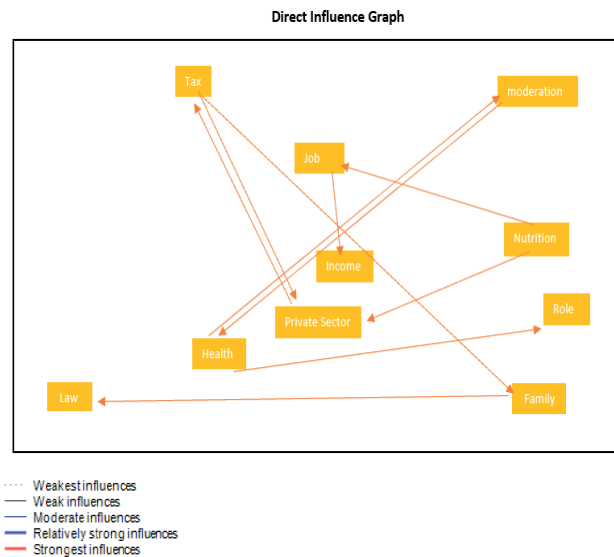
From the following table it can be seen that the data iteration value is stable when the data is given an iteration behavior of 4 to 6.



TABLE 1: Stability Data Analysis.

Iteration	Influence	Dependence
1	100 %	100 %
2	100 %	102 %
3	100 %	98 %
4	100 %	100 %
5	100 %	100 %
6	100 %	100 %

Source: Data processed by researchers, 2022

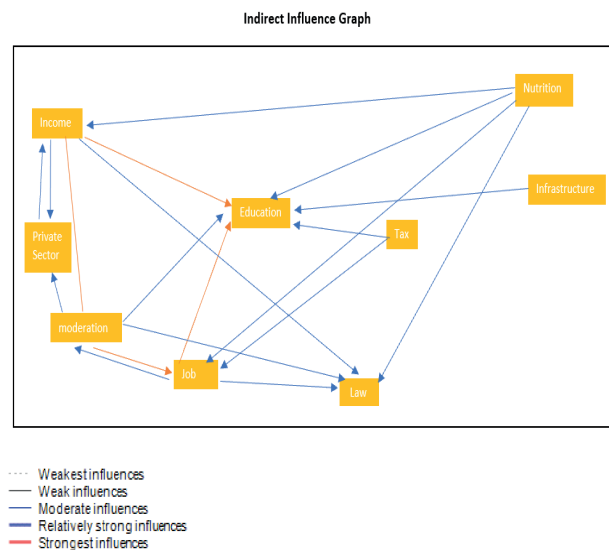


Source: Data processed by researchers, 2022

Figure 3: Direct Influence Graph.

Based on the relationship between variables with direct influence, it is known that there is a very strong relationship between the variables. Taxes have a very strong influence on the private sector and families. Modernization has a very strong influence on health. Work has a very strong influence on income. Nutrition has a very strong influence on work and the private sector. The private sector has a very strong influence on taxes. Health has a very strong influence on modernization and regulation. The family has a very strong influence on punishment. Based on the relationship between variables with direct influence, it is known that there is a very strong relationship between the variables. The family has a very strong influence on education and punishment. Taxes have a very strong influence on family, private sector, education, income and regulations. Work has a very strong influence on income. Nutrition has a very strong

influence on work, education, income and the private sector. The private sector has a very strong influence on taxes and regulations. Rules have a very strong influence on punishment. Education has a very strong influence on income. Infrastructure has a very strong influence on the private sector, subsidies and taxes. Customs have a very strong influence on the private sector. Modernization has a very strong influence on traditions and health. Income has a very strong influence on employment and taxes. Health has a very strong influence on modernization and regulation.



Source: Data processed by researchers, 2022

Figure 4: Indirect Influence Graph.

Based on the relationship between variables with indirect influence, it is known that there are 3 very strong relationships, namely income and employment, income and education, and employment and education. Meanwhile, the indirect relationship between other variables is relatively strong. This means that these variables are indirectly influenced by each other, and have an impact on each other's behavior.

## 6. Discussion

The economic potential in Sade Village is very large in the tourism sector, through this tourism sector it can drive economic activities and become a source of regional income. Sade Village is unique in terms of daily life which is a selling point or tourist attraction, for example in terms of the shape of the houses where they live, it has its own unique shape where the traditional houses are the characteristic of the people they live in, the walls are not made of brick but from the soil and mixed with cow dung to make the soil

sticky for the walls of the house, once a month the house must be sprinkled with cow dung so that the soil becomes more sticky and sturdy, for the roof of the house using woven rice, as described below:



Sumber : Author, 2019

**Figure 5:** Condition of Local House in Sade Village

The tradition of mopping all the houses with mops has been established since the founder of the bale (traditional elder), when the house is being mopped with cow dung, the family living in the house can evacuate to the house of a nearby relative. Every house has a thread spinning machine that is used for weaving. For traditional holders who want to get inspiration from the Almighty, there is a special place for them to get that peace, with the traditional holders often being in that place, it will make it easier to maintain village harmony. In the Bale Gunung Rate custom, we know that we are as humans, so that we meditate to perfect ourselves as humans who have an even better level of faith and closeness to the Creator, in Bale Kodong and Bale Bontar is our place before mastering ourselves, while those who care for and inherit the Bale are the youngest children here. If we can control ourselves then we are welcome to live in the Bale Adat Bale Rate. For newly married brides and grooms, they will live in the Kodong traditional bale and first see their development and maturity, then after that they will live in the Bontar bale, then they will pay attention to signs of whether they are suitable or not to live in the Bale rate traditional bale, as described in following picture:

By meditating, especially as usually done by traditional leaders, makes oneself feel closer to the creator, and makes it easier to attend traditional events, as well as



Sumber : Author 2019, 2022

**Figure 6:** Meditation's Location.

maintaining the beauty and peace of this village. The more people meditate to pray for this village to be better, the more peaceful the people's lives will be. For women, it is one of the hereditary inheritances that exist in our village, and must be able to be here, and for girls in sade they are not allowed to leave to migrate before they can weave. So what will be inherited to their daughters is that they are taught looms from the age of 9 or 10 years, the woven products are sold as original cloth from Sade Village crafts which are usually bought by tourists as souvenirs. The following is a picture of women weaving in Sade Village, as well as the results of the weaving:



Sumber : Author, 2020

**Figure 7:** Woven Cloth and Weaving Products Sales Place.

Another unique thing that can be sold as a regional story is the “Kidnapping Marriage” incident, because of the high cost of the dowry to propose to a woman, it has become a custom for men and women who want to get married, they will carry out the tradition of kidnapping marriage so that the costs incurred by the man are not enough. men

are not big, the traditional holders based on representatives from men and women will meet at the tree of love, to discuss the continuation of the abducted marriage process, namely informing them that the woman has been taken away from home to intend to be married by the man who has kidnap him, here's what the love tree symbol looks like:



Sumber : Author 2020

**Figure 8:** Icon of Love Tree in Sade Village.

Many visitors come to take photos or selfies at this tree, because this tree signifies the power of love, the location of this tree is not far from the location of the bale which is used for meditation, men and women who want to immortalize their moments of love at this tree, with confidence by taking photos can increase feelings of affection and love for each other.

With all the beauty and unique culture found in Sade Village, unfortunately there is still a lot of tourism potential left behind, such as maximizing tourism potential which should be developed like the Bali region, places of worship can also be used as tourist locations, stories about the tree of love can be narrated and created. film, so that when visitors who come to Sade Village can watch the “Kawin Culik” adekn and are given a tour package to enjoy how to weave or provide lodging accommodation in the homes of local residents, with these ideas for adding tour packages / tourism can add to the tourism value of the Village Sade.

Not only in terms of potential, but also in terms of digitalization, most of the residents of Sade Village are very closed off from digitalization, it can be said that the residents' sense of trust in carrying out digitalization transactions does not yet exist, the socialization that has been carried out by Bank BCA does not seem to be able to be realized

in reality, the community is more It is convenient to accept cash as a transaction tool for immigrants who want to buy souvenirs in their village. This is due to the low level of understanding among the public to understand online transactions. The choice of provider and device is also very important to support digitalization. People are not yet accustomed to using smart phone devices, so It is still too foreign for them to use online platforms, this is something that must receive attention from the local government, as well as collaborating with academics to actualize people's understanding of the digital world.

## 7. Conclusion

Looking at the results of the MICMAC analysis, both the Influence Map diagram and the Indirect Graph, it is clear that the key variables that can influence economic potential inequality: including employment, income and education. Starting from the relatively low quality of community education, this has caused great fear regarding the use of technology in Sade Village, the community assumes that they will be deceived if they use technology-based transactions (fintech). This inequality will be difficult to reduce if people's mindset does not want to be changed. It is necessary to stimulate insight regularly to open people's mindsets to be open to technology. Daily work only involves trading and taking care of household needs, paddy fields and fields, which makes people feel that they do not have enough time to learn about the benefits of promotion on social media. Apart from that, it is sad that there has not been any special attention from local agencies regarding the mindset of people who are not yet open to technology.

## References

- [1] Ambarwati, R., Kusumastanto, T., & Fachrudin, A. (2016). Economic Analysis and Policy for the Development of Tabuan Island Marine Tourism in Banyuwangi Regency, East Java Province. *IPB Journal*.
- [2] Fachriyan, M. A., & Nidyantoro. (2016). Analysis of the Economic Impact and Economic Value of Situ Udik Bogor Nature Tourism. *IPB Journal*.
- [3] Ichsan, R. M., Sutandi, A., & Sunito, S. (2017). Analysis of Cultural Heritage Objects as Potential Urban Tourism Areas in Bogor City. *IPB Journal*.
- [4] Mangiri, D., Siregar, H., & Rustiadi, E. (2019). The Impact of Lake Sentani Tourism on the Local Economy and Level of Regional Development in Jayapura Regency. *IPB Journal*.

- [5] Mazaya, A. F., Yulianda, F., & Taryono. (2018). Development of Marine Ecotourism with an Approach to Coral Reef Resource Assessment in Karimunjawa National Park. *IPB Journal*.
- [6] Muflih, A., Fahrudin, A., & Wardianto, Y. (2015). Dynamic Modeling of Interspatial Management of Coastal Tourism Areas (Case Study: Tanjung Pasir Coast and Untung Jawa Island). *IPB Journal*.
- [7] Nurita, Mulatsih, S., & Ekayani, M. (2016). Strategy for Development of Local Community-Based Turtle Nature Tourism on Temajuk Beach, Sambas Regency, West Kalimantan. *IPB Journal*.
- [8] Pramudia, E. (2008). Evaluation of the Actual Potential of Tourist Attractions in Agam Regency, West Sumatra for Planning Development Programs. *IPB Journal*.
- [9] Pratikto, A. (2012). The Influence Of Culture On Economic Performance. *Economic Studies Bulletin*, Volume 17 number 2.
- [10] Rahmatica, A., Kusumasthanto, T., & Sadelie, A. (2017). Economic Analysis and Policy for Marine Tourism Development in the Mandalika Special Economic Zone, Central Lombok (Case Study of Kuta Beach). *IPB Journal*.
- [11] Silvitiani, K., Yulianda, F., & Siregar, V. P. (2017). Study of the Development of Beach Tourism and Surfing Tourism Based on Natural Resource Potential in Sawarna Village, Banten. *IPB Journal*.