

Analysis Of Tourism Villages Sustainability Managed By Village-Owned Enterprises (BUM Desa)

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Abstract

The development of Tourism Villages is one of the Government's strategies to reduce inequality and equity. The Ministry of Villages, Development of Disadvantaged Regions, and Transmigration sets policy directions and strategies in increasing investment in rural superior products, one of which is through facilitating the development of Tourism Villages managed by Village-Owned Enterprises (BUM Desa). This research aims to analyze the level of sustainability of 6 (six) Tourism Villages, namely: Sukalaksana Village, Garut District, Kebundadap Timur Village, Sumenep District, Dadapan Village, Pacitan District, Kalipelus Village, Pacitan District, Jarum Village, Klaten District, and Serang Village, Purbalingga District based on economic, social, environmental, cultural and institutional dimensions. This study used a qualitative approach, with data collected including primary and secondary data. Primary data was collected through in-depth interviews with several informants, field observations, and documentation, while secondary data was collected from reports and study results. The state of sustainability of the six tourism villages was analyzed using Rapfish/MDS (Multy Dimentional Scalling). The results of the analysis of the sustainability status of the Tourism Village show that, for the economic dimension, apart from Kalipelus Village, which has a poor sustainability status, the other five villages have a moderate sustainability status. In the social dimension, except for Desa Jarum, which has a less sustainable status, the other five villages have a moderate sustainability status. In the environmental dimension, with the exception of Jarum Village, which has less sustainability status, the other five villages have sufficient sustainability status. In the cultural dimension, all six villages have sufficient sustainability status. In the institutional dimension, three villages (Sukalaksana, Serang, and Kebundadap Timur) have a less sustainable status, while the other three villages (Kalipelus, Jarum, and Dadapan) have a moderate sustainability status.

Keywords: *Tourism Village, Rapfish, Multidimensional Scaling, Sustainability, BUM Desa.*

1. Introduction

Tourism is one of the world's fastest growing industries and an important source of foreign exchange and employment, while being closely linked to social, economic, and environmental well-being of many countries, especially developing countries. The World Tourism Organization defines sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, and addresses the need visitors, the industry, the environment, and host communities" In the 2030 agenda for sustainable development 8.9, aims to "by 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products". The

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importance of sustainable tourism is also highlighted in SDG target 12.b. which aims to “develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates job and promotes local culture and product”. (United Nations, 2017).

The Government of Indonesia has established village tourism as one of the strategies to increase the potential and capacity of local resources, as outlined in Government Regulation No. 50/2011 on the National Tourism Development Master Plan 2010-2025. The strategy is a step that supports the direction of community empowerment policies in the tourism sector, by increasing the potential and capacity of local resources through the development of productive businesses in the tourism sector. The government's strategy was then translated by the local government, by creating a local regulation on the development of a Tourism Village as a program to encourage villages to become economically independent (Lichauco, 2022; Putri, Mazni, & Suharto, 2021; Suharto, Angkupi, Dacholfany, & Susminingsih, 2021; Wahyudi, Suharto, & Mazni, 2021).

In its concept, a Tourism Village provides a tourist destination without destroying and changing the existing traditions in the village. So the principle of sustainability is important in the development of a Tourism Village. As villages in Indonesia have a variety of traditions that characterize each village, the development of a Tourism Village in several villages displays a variety of traditions or cultures that are very interesting so that tourists who visit these villages get various benefits through the visits they make. Villages that are visited certainly benefit from the visits of tourists, both economically, socially as well as culturally. The role of tourists as the most important stakeholders in the tourism sector cannot be abandoned to build sustainable tourism (Kartika & Medlimo, 2022; Kasmahidayat & Hasanuddin, 2022; Kennedy, Tobing, & Toruan, 2022; Supheni, Ivada, Novianti, & Wiwin, 2022; Syarif & Riza, 2022).

Sudibya (2018) states that four important things that must be considered in relation to Tourism Villages are:

1. The environment is not destroyed (sustainability);
2. Culturally they remain in the existing social and culture;
3. providing economic benefits without losing its identity as a village, and;
4. provide community empowerment to the village and surrounding villages.

In its implementation, not all village heads and villagers understand the concept of tourism villages, so they find it difficult to implement tourism village development programs in their villages. Many think that to develop a tourism village, they have to build new and interesting places. Villages that implement a Tourism Village program that is not based on the natural and cultural potential of the local village, make changes to land use to build new tourist destinations, or create high-tech tourist destinations, which will have implications for the need for large funds.

This research aims to analyze 6 (six) Tourism Villages that have different characteristics in developing tourism destinations that are managed by BUM Desa. As a policy of the Ministry of Villages, Development of Disadvantaged Regions and Transmigration, the role of BUM Desa as a Village Economic Institution is expected to be able to manage the potential and natural resources of the village into tourist destinations and attract tourists to visit the village, so as to improve the village economy and the welfare of the village community. The six Tourism Villages that are the objects of this research are:

1. Kebundadap Timur village in Saronggi sub-district, Sumenep District, which developed Kedatim mangrove tourism. Kedatim Mangrove Tourism is not only a tourist destination, but also a mangrove conservation area, where tourists are invited to increase their awareness of the importance of protecting the environment. Therefore, this mangrove tourism is also intended as educational tourism, where visitors can learn about mangroves and mangrove conservation.
2. Serang Village in Karangrejo Sub-district, Purbalingga District, is developing a Tourism Village with its flagship destination being the beautiful natural scenery known as Lembah Asri and D'alas. With the existence of this Asri Valley destination, it has a positive impact on the surrounding farmers, because farmers who used to rely solely on agricultural products whose harvests were seasonal, can now take part in becoming

tourism-aware farmers, creative and innovative farmers by planting various kinds of fruits and flowers to become souvenirs for tourists visiting there.

3. Sukalaksana Village in Samarang Sub-district, Garut District, which has developed the Saung Ciburial Tourism Village, where the center of the destination is located. The various nature and culture-based tour packages offered are agricultural packages (where tourists are invited to learn to farm and harvest agricultural products), art packages (such as performances of matches between Garut sheep), craft packages, and other packages that are all related to nature and the traditions of the local village community.
4. Jarum Village in Bayat Sub-district, Klaten District, is developing a Tourism Village with the flagship destination being Batik education-culture tourism. The village, where most of the people have livelihoods related to batik, has made various innovations in the batik process using natural materials such as plants and plants in the surrounding environment. Batik media is not only limited to cloth, but also wood, umbrellas, and stone.
5. Kalipelus Village in Kebonagung Sub-district, Pacitan District, which is developing a Tourism Village with its flagship destination Pangasan Beach, which is a type of rocky beach and has several towering cliffs, as well as a very beautiful natural panorama.
6. Dadapan Village in Pringkuku Sub-district, Pacitan District, which is developing a Tourism Village with its flagship destination being Sentono Gentong Hill Tourism, which is located on a cliff with an altitude of 203 meters above sea level so that it can see an open view towards Pacitan Bay, and has sacred value and an important role in the history of the development of Java.

As explained by the World Commission on Economics and Development (1987) in Sutawidjaya (2020), the concept of sustainability explores the relationship between economic development, environmental quality, and social equity, so some researchers use these three dimensions and add several other dimensions to analyze the sustainability of a Tourism Village. Marhesa et al (2022) analyze the sustainability of Ngargoretno Village Tourism Village in Salaman Sub-district, Magelang Regency from the economic, ecological, social, infrastructure, and institutional dimensions, and the results state that the ecological and institutional dimensions show a moderate sustainability status, while the other three dimensions show a less sustainable status.

Fasa et al (2022) through their study analyzed that the development of sustainable tourism villages is important to implement because it supports the sustainable recovery of the post-pandemic tourism sector and efforts to achieve sustainable development targets; the strategies needed to encourage this development are synergy and interconnectivity in implementing six supporting aspects, namely political, economic, social, technological, environmental, and legal or regulatory; Yudha et al (2021) in analysing the sustainability of Guci Batu Kapal Beach Tourism management in Maja Village, Kalianda, South Lampung, and the results state that the sustainability index value of Batu Kapal Jars Beach Tourism is in the poor category based on the dimensions of ecology, economy, technology, infrastructure, and law and institutions; Hafida et al (2019) in analysing the sustainability of the Sepakung Tourism Village, Banyubiru District, Semarang Regency, and the results state that the sustainability of the ecological, economic, and social dimensions of Sepakung Tourism Village has a high index value. Mukhlisin et al (2023) analyzed the sustainability of Pentingsari Tourism Village and the results stated that Pentingsari Village showed sufficient sustainability status based on ecological, economic, and social dimensions.

In contrast to these studies, this research focuses on six villages that have developed Tourism Village Programmes managed by BUM Desa. Using the economic, ecological, social, cultural, and institutional dimensions of the six Tourism Villages managed by BUM Desa, we compare their sustainability status. According to Hafida et al (2019), assessing the sustainability of Tourism Villages is also considered important because it is to assess how to increase tourist attraction. In addition, this assessment can also be used to see how serious the elements of both the community, the Village Government, and private

institutions are in the hope that the management of the Tourism Village will be more advanced.

The addition of cultural and institutional dimensions is important in looking at the sustainability status of Tourism Villages, in order to support the policy of localizing the Sustainable Development Goals (SDGs) at the village level. The diversity of villages in Indonesia is a characteristic that should be considered and taken into account in assessing the sustainability status of a Tourism Village. Likewise, the BUM Desa institution is also a characteristic of an economic institution developed in the Village in supporting Village development and Village Community Empowerment.

2. Methodology

This research was conducted in 6 (six) Tourism Villages whose management is carried out by BUM Desa, namely Sukalaksana Village, Semarang Sub-district, Garut District, Jarum Village, Bayat Sub-district, Klaten District, Kalipelus Village, Kebonagung Sub-district, Pacitan District, Dadapan Village, Pringkuku Sub-district, Pacitan District, Serang Village, Karangrejo Sub-district, Purbalingga District, and Kebundadap Timur Village, Saronggi Sub-district, Sumenep District.

Data collection was conducted through two methods, namely primary data collection and secondary data collection. Primary data collection was conducted through in-depth interviews, field observations, group discussions, and documentation. The selection of informants in this study used a purposive sampling approach that came from various sources, such as officials from several related agencies, village leaders and communities, village facilitators, BUM Desa administrators in the six villages that were the object of research. Secondary data collection was conducted through literature studies of previous studies and policy documents from relevant institutions or agencies. Further sustainability analysis was conducted using the Multidimensional Scaling (MDS) method with the help of RAPISH (Rapid Appraisal for Fishier) software.

The stages of research on the sustainability of Tourism Villages managed by BUM Desa are as follows:

- a. Determining the dimensions and attributes used to assess the level of sustainability of the Tourism Village. The selection of dimensions and attributes was conducted through group discussions involving experts who understand the issues of sustainable village development, tourism village development, and BUM Desa, as well as referring to previous studies. The dimensions and attributes used in this study are as follows:
 - 1) Economic Dimension, with attributes (1) Economic Improvement program, (2) Increased Community Income, (3) Village Regulation on Poverty Alleviation, (4) UMKM in Village, (5) Increased Number of Tourists, (6) BUM Desa Contribution to PADes, (7) Employment Opportunities in the Agricultural Sector, (8) Employment Opportunities in the Non-Agricultural Sector.
 - 2) Environmental Dimension, with attributes (1) Tourism Objects Developed, (2) Water Pollution, (3) Air Pollution, (4) Availability of waste bins, (5) Waste Management, (6) Change in Agricultural Land status.
 - 3) Social Dimension, with attributes (1) Conflict of Tourism Village Management, (2) Infrastructure Developed in Tourism Village, (3) Health Insurance Participants, (4) People Handled by Health, (5) Health Workers in the Village, (6) Health Facilities, (7) Scholarship Programme.
 - 4) Cultural Dimension, with attributes of (1) Awareness of Preserving Culture, (2) Availability of Art Studio in the Village, (3) Publication of Village Local Culture, (4) Traditional Activities or Typical Ceremonies in the Village, (5) Typical Village Arts, (6) Village Regulations in Regulating Local Culture in the Village.
 - 5) Institutional Dimension, with attributes of (1) Stakeholders Involved, (2) Development of POKDARWIS by Related Agencies, (3) Role of POKDARWIS in Tourism Village Development, (4) Development of BUM Desa by Related Agencies, (5) Role of BUM Desa in Tourism Village Development.

- b. Provide an assessment of the attributes that have been arranged on an ordinal scale. Scoring refers to previous research. Attributes that have been compiled are given an ordinal score in the range of 0-3, which describes (0) as the lowest assessment and (3) as the highest assessment (Suryana, 2012). The attribute assessment was obtained by filling out questionnaires to experts.
- c. Conduct a Multidimensional Scaling (MDS) analysis on the attributes using Rapfish (Rapid Appraisal for Fisheries), to calculate the sustainability index value. In principle, MDS maps the perceptual distance between one unit and another unit by blocking (Fauzi, 2019), so that in this study the mapping of perceptual distance by blocking is carried out between one village and another village in 6 (six) villages. The sustainability index scale obtained is compared with the sustainability status and index categories as shown in Table 1 below:

Table 1. Index Categories and Sustainability Status

Nilai	Category Index
0 - 25	Bad (unsustainable)
26 - 50	Less (less sustainable)
51 - 75	Moderate (moderately sustainable)
76 - 100	Good (very sustainable)

Source: Marhesa et al (2022)

- d. Conduct a leverage analysis, to determine the attributes that are sensitive to affecting sustainability. The most sensitive attributes affecting sustainability are indicated by the highest Root Mean Square (RMS) value (Putri, 2019 in Marhesa, 2022).
- e. Perform Monte Carlo analysis, to determine the effect of error on the process of estimating the value of sustainability ordination (Fauzi, 2019).
- f. Analysing the sustainability of 6 villages based on economic, social, environmental, cultural, and institutional dimensions.

3. Results and discussion

Using Multidimension Scaling, and processed with Rapfish application, the analysis of the sustainability status of 6 (six) Tourism Villages using 5 (five) dimensions, namely economic, social, ecological, cultural, and institutional, provides the following results:

3.1 Economic Dimension

The analysis of sustainability status based on the economic dimension in 6 (six) Villages with attributes: Economic Improvement programmes, Increased Community Income, Village Regulation on Poverty Reduction, UMKM in Village, Increased Number of Tourists, BUM Desa Contribution to PADes, Employment Opportunities in the Agricultural Sector, Employment Opportunities in the Non-Agricultural Sector indicates the index value and scale as in Table 2, and illustrated in Figure 1.

Table 2. Sustainability index values and scale in the Economic Dimension

Village	Values	Scale
Serang	66,42	-15,48
Kebundadap Timur	65,97	9,98
Sukalaksana	63,05	9,89
Jarum	55,41	10,14
Dadapan	53,31	11,19
Kalipelus	45,43	-7,09

Source: Processed Results with Rapfish (2023)

Table 1 and Figure 1 illustrate that 5 (five) villages are in a moderately sustainable status for the Economic Dimension, namely Serang Village with a score of 66.42; East Kebundadap Village with a score of 65.97; Sukalaksana Village with a score of 63.05; Jarum Village with a score of 55.41; and Dadapan Village with a score of 53.31. Meanwhile, Kalipelus Village is at "less" sustainability status with a score of 45.43.

Kalipelus Village is the only village out of the six tourist villages in this study whose sustainability status in the economic dimension is still lacking. As a village where the majority of the community's livelihoods are engaged in agriculture, plantations and fisheries, there are still problems faced in relation to the abundant plantation products that need serious handling, namely the need for a home industry that processes the plantation products, and marketing them in agro-tourism locations. Likewise, in the fisheries sector, there are still limited fishing facilities and infrastructure, with implications for not maximising the management of fishery products as a source of increasing community income.

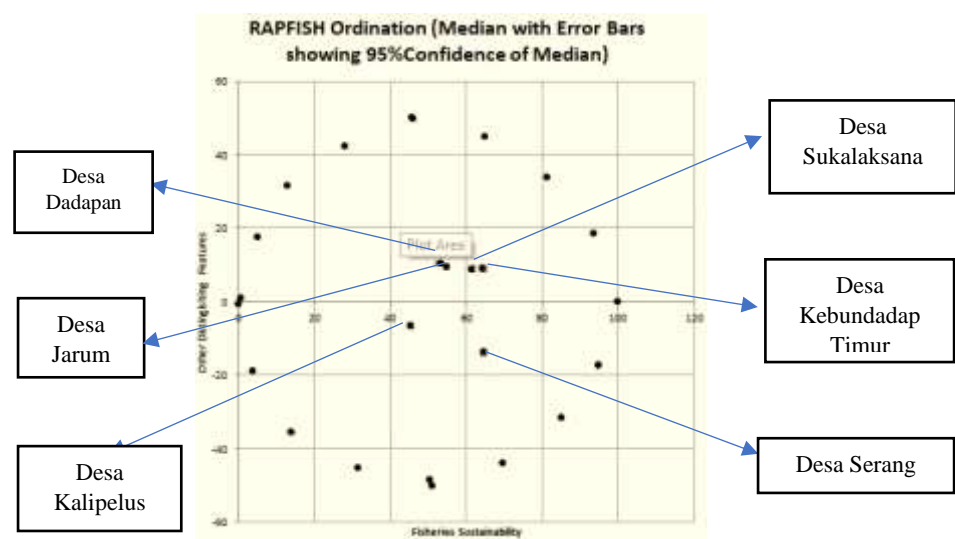


Figure 1. Ordinary Dimensions of Economic Sustainability
Source: Processed Result (2023)

Based on the Leverage analysis of the economic dimension, the three main attributes that have high leverage are the attribute "Increased community income" with a value of 8.49, the attribute "increased number of tourists" with a value of 6.03 and the attribute "contribution of BUM Desa to PADes" with a value of 5.41 (Figure 2), this means that in an effort to improve the sustainability status of the economic dimension of the Tourism Village development programme, the issue of increasing community income, increasing the number of tourists and the contribution of BUM Desa to PADes needs more attention.

Increasing community income in the Tourism Village programme can be done through community empowerment, by providing various skills that support tourist destinations such as making souvenirs, providing culinary, providing homestays. In addition, increasing income is done by opening up employment opportunities in tourist destinations, such as providing labour for parking guards, tour guides, cleaning, entrance ticket guards, and others. The development of tourism villages in the six villages to date has provided sufficient employment opportunities for the village community, so this attribute shows a good contribution to sustainability status. The number of tourists visiting the six tourist villages is quite fluctuating, where there was a drastic decline during the covid-19 pandemic, but after the pandemic the number of tourists has begun to increase, so this attribute shows a fairly good contribution to sustainability status. However, for the

attribute of BUM Desa Contribution to PADes, it seems that it is still lacking in contributing to the sustainability status.

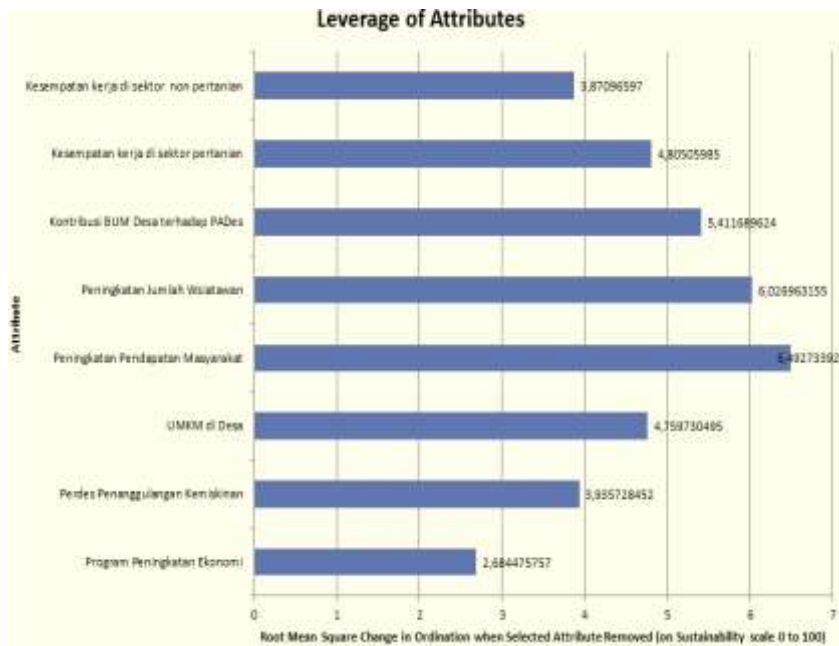


Figure 2. Result Leverage Analysis of Economic Dimension
Source: Processed Result (2023)

The distribution of dot plots in the six villages tends to be densely clustered, indicating that there is little "disruption" in the six villages related to the economic dimension. For the Monte Carlo analysis, as shown in (Figure 3), it shows that

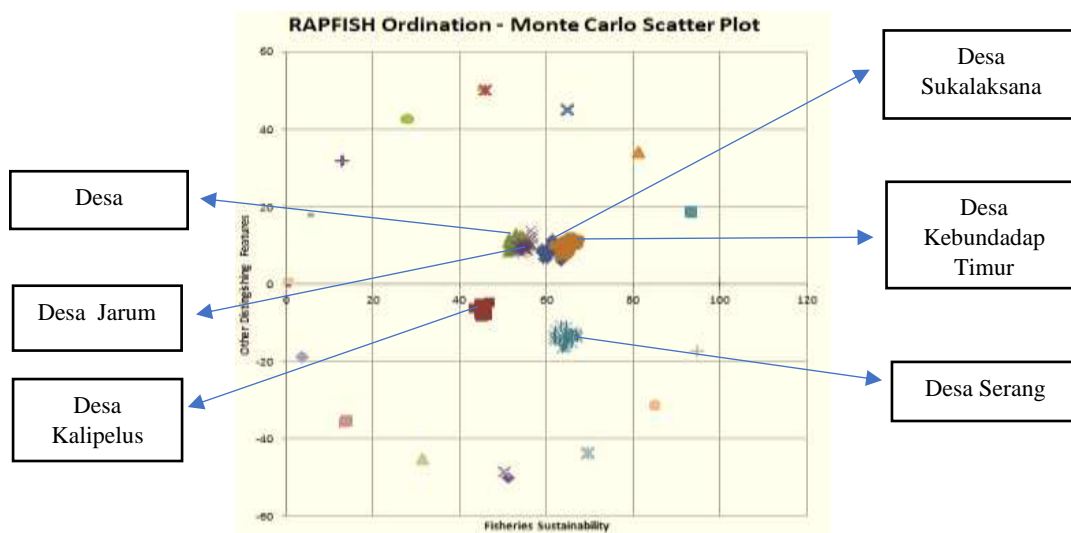


Figure 3. Monte-Carlo Analysis for Economic Dimension
Source: Processed Result (2023)

3.2 Social Dimension

Analysis of sustainability status based on the social dimension in 6 (six) villages with attributes: Conflict of Tourism Village Management, Infrastructure Developed in Tourism Village, Health Insurance Participants, Community Health Care, Health Workers in the Village, Health Facilities, and Scholarship Programme, indicating index and scale values as in Table 3, and illustrated in Figure 4.

Table 3. Sustainability index values and scale in the Social Dimension

Village	Values	Scale
Sukalaksana	83,91	-3,73
Serang	81,53	-15,33
Dadapan	56,52	-23,37
Kebundadap Timur	53,84	-10,13
Kalipelus	52,08	-5,94
Jarum	48,81	-7,03

Source: Processed Results with Rappfish (2023)

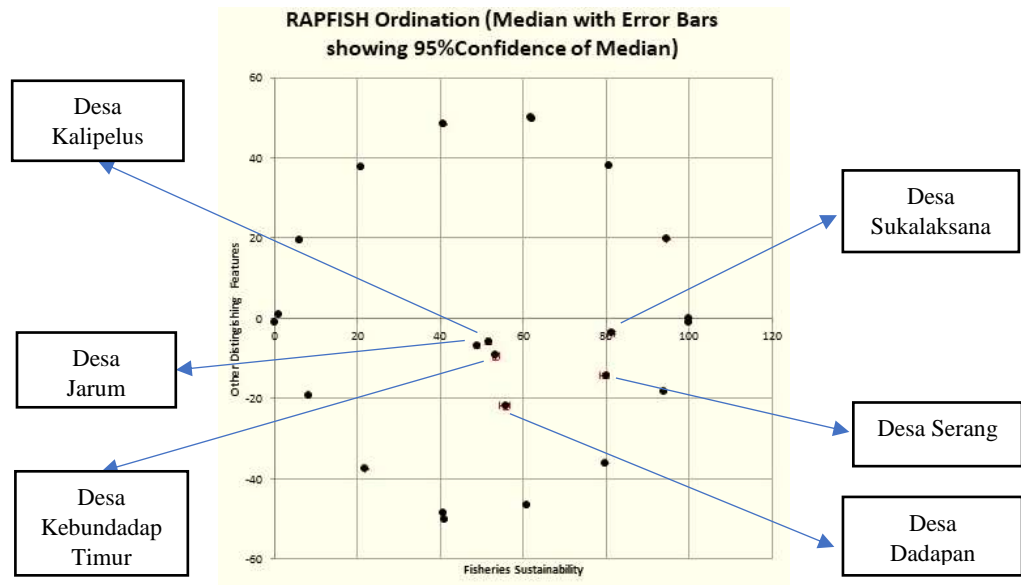


Figure 4. Ordinary Dimensions of Social Sustainability

Source: Processed Result (2023)

Table 3 and Figure 4 illustrate that two villages are in "good" sustainability status for the Social Dimension, namely Sukalaksana Village with a score of 83.91; and Serang Village with a score of 81.53; three villages are in "moderate" sustainability status, namely Dadapan Village with a score of 56.52; East Kebundadap Village with 53.84; and Kalipelus Village with a score of 52.08. Meanwhile, Jarum Village is at "less" sustainability status with a score of 48.81.

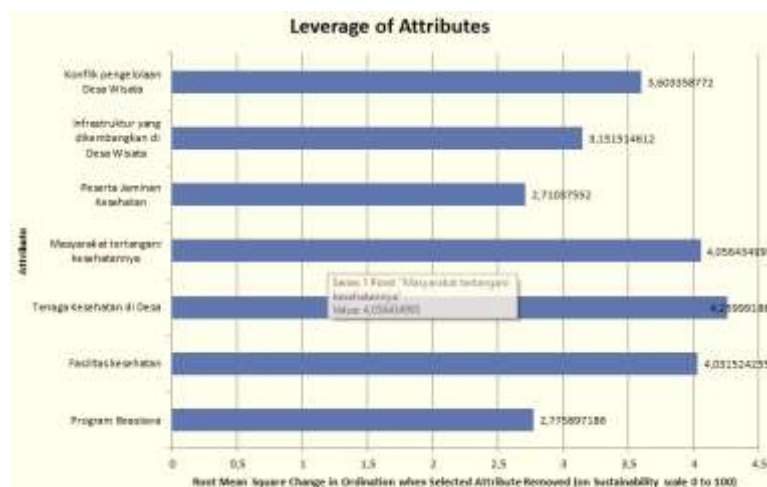


Figure 5. Result Leverage Analysis of Economic Dimension

Source: Processed Result (2023)

Based on the leverage analysis of the social dimension, the three attributes that have high leverage are the attribute "Health Workers in the Village" with a value of 4.26; the attribute "Community Health Care" with a value of 4.05; and the attribute "Health Facilities" with a value of 4.03.

The presence of health workers and health facilities in the village is one of the determining factors in improving the health of the village community. The presence of auxiliary health centres, posyandu, and midwives or nurses who are located in the village and facilitate the treatment of the village community, will encourage an increase in labour productivity that supports the development of Tourism Village. These three interrelated attributes are critical to the sustainability of Tourism Village development.

The Monte Carlo analysis showed that for Dadapan Village, Sukalaksana Village, and Serang Village, the distribution of plot points tended to be rather wide, indicating that there were significant disturbances in these villages related to social aspects. Meanwhile, for Kalipelus Village, Jarum Village, and Kebudadap Timur Village, the dot distribution tends to cluster, indicating little "disturbance".

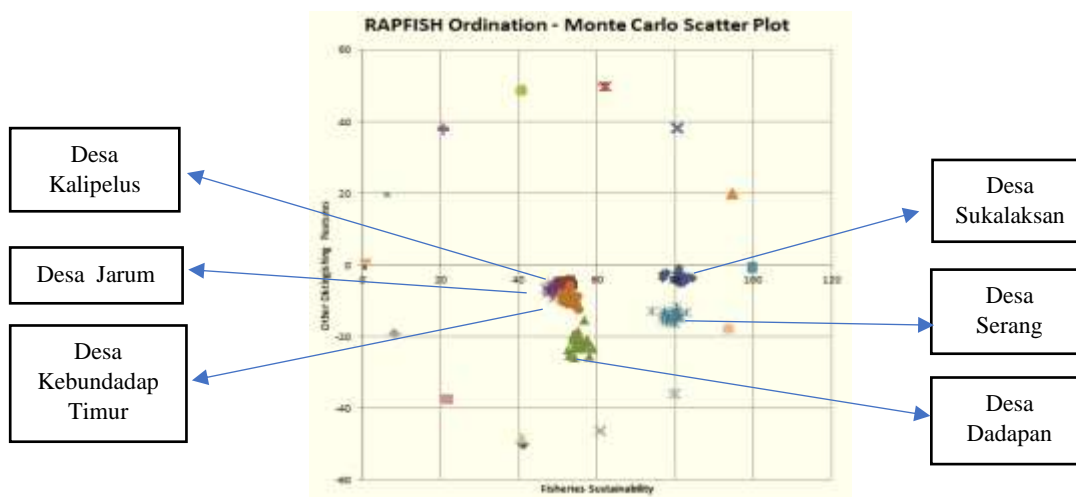


Figure 6. Monte-Carlo Analysis for Economic Dimension
Source: Processed Result (2023)

3.3 Environmental Dimension

Analysis of the sustainability status of the environmental dimension in 6 (six) villages with attributes: Developed Tourism Objects, Water Pollution, Air Pollution, Availability of Waste Bins, Waste Management, and Changes in Agricultural Land status, indicating index and scale values as in Table 4 and illustrated in Figure 7.

Table 4. Sustainability index values and scale in the Environmental Dimension

Village	Values	Scale
Serang	76,20	12,02
Kebudadap Timur	66,63	4,77
Kalipelus	58,19	4,67
Sukalaksana	55,81	-0,80
Dadapan	55,48	-2,5
Jarum	49,74	2,85

Source: Processed Results with Rapfish (2023)

Table 4 and Figure 7 illustrate that one village is in "good" sustainability status for the Environmental Dimension, namely Serang Village with a score of 76.20; 4 (four) villages

are in "moderate" sustainability status, namely East Kebundadap Village with a score of 66.63, Kalipelus Village with a score of 58.19, Sukalaksana Village with a score of 55.81, and Dadapan Village with a score of 55.48. Meanwhile, Jarum Village is in the "less" sustainability status with a score of 49.74.

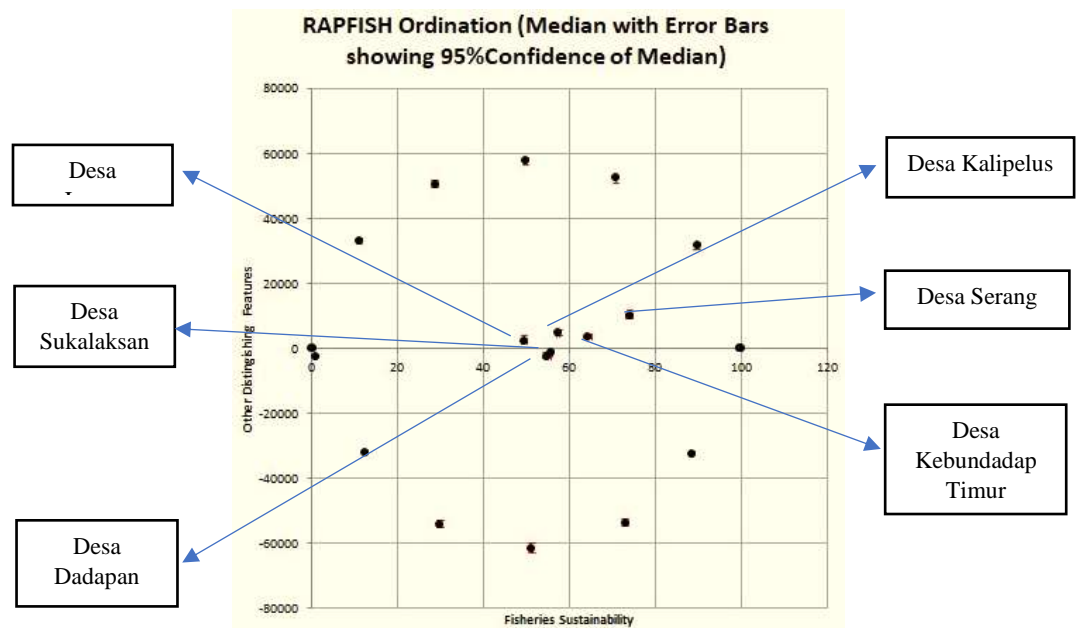


Figure 7. Ordinary Dimensions of Environmental Sustainability
Source: Processed Result (2023)

Based on the leverage analysis of the environmental dimension, the three main attributes that have high leverage are the "Waste Management" attribute with a value of 5.1, the "Water Pollution" attribute with a value of 4.9 and the "Availability of Waste Bins" attribute with a value of 4.8 (Figure 8), this means that in an effort to improve the sustainability status of the environmental dimension of the Tourism Village development programme, the problems of waste management, water pollution and the availability of waste bins need attention, because if these three attributes are not handled properly, they will affect the sustainability of the Tourism Village. .

The six tourist villages that were the objects of the research almost all have tourist destinations related to water (water sources, rivers, etc.), so managing water free from pollution is a must. Saung Ciburial Tourism Village, with its central destination at the location of the Ciburial water source, utilises water not only as a source of drinking water, but also as a source of agricultural irrigation in Sukalaksana Village. The Jarum Tourism Village is engaged in batik cultural activities, where batik dyeing will greatly affect water pollution, so the use of natural colours derived from plants will greatly help preserve the river environment.

The consequence of tourist visits to villages with various tourist destinations offered by each village is the presence of waste that may be brought by visitors when eating and drinking at tourist attractions. The more visitors, the more waste will be generated, but the availability of garbage bins in the six tourist villages is still lacking. Some tourist destinations have not provided trash bins in the proportion that they should. Likewise with waste management, not all villages have a waste management programme. This is something that needs to be considered by Tourism Village managers, because when a Tourism Village develops, more visitors will come, and there will be an increasing need for waste bins and a good waste management system. This is to maintain environmental sustainability.

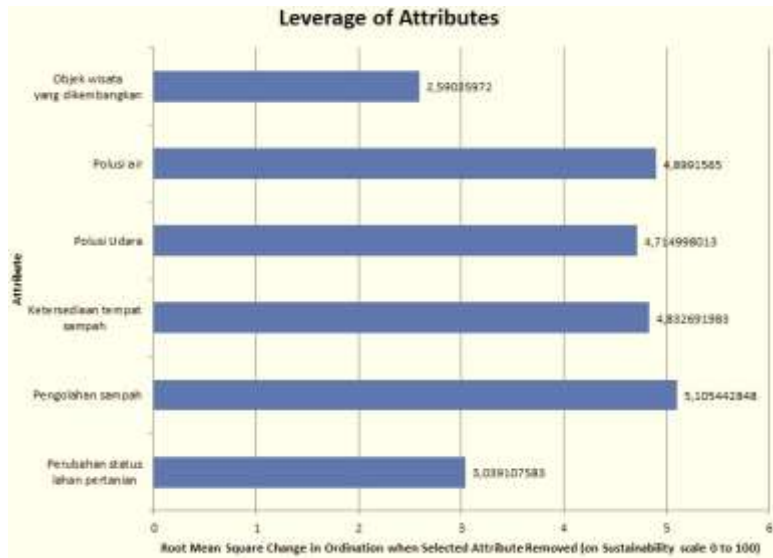


Figure 8. Result Leverage Analysis of Environmental Dimension
Source: Processed Result (2023)

The Monte Carlo analysis shows that for Serang and Jarum villages, the dot distribution tends to be rather wide, indicating that there is significant disturbance in these villages related to environmental aspects. While for Kalipelus Village, Kebundadap Timur Village, Sukalaksana Village and Dadapan Village the dot distribution tends to be dense, indicating little "disturbance".

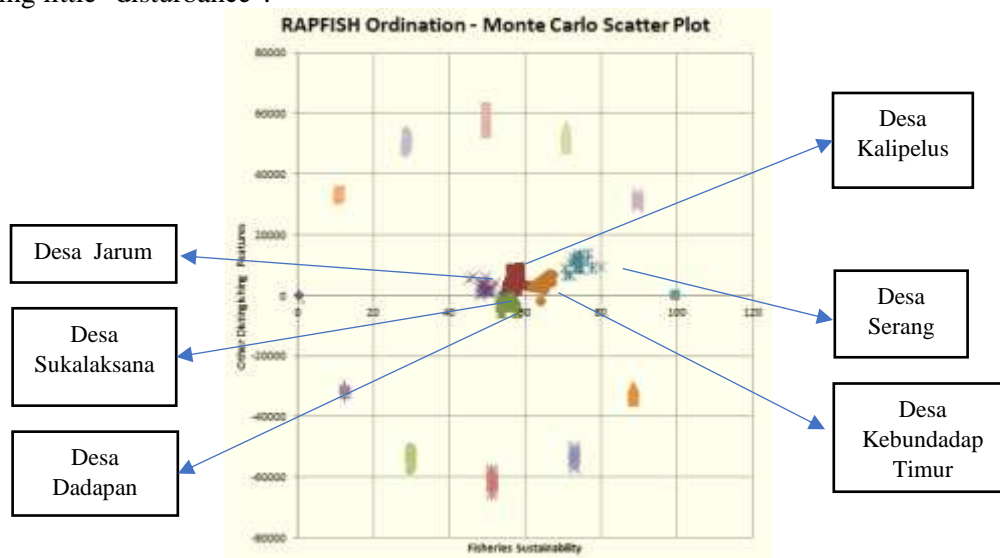


Figure 9. Monte-Carlo Analysis for Environmental Dimension
Source: Processed Result (2023)

3.4 Cultural dimension

Analysis of the sustainability status of the Cultural dimension in 6 (six) Villages with attributes: Awareness of Preserving Culture, Availability of Art Studio in the Village, Publication of Village Local Culture, Traditional Activities or Distinctive Ceremonies in the Village, Village Distinctive Arts, and Village Regulations in Regulating Local Culture in the Village indicate index and scale values as in Table 5, and illustrated in figure 10.

Table 5. Sustainability index values and scale in the Cultural Dimension

Village	Values	Scale
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Serang	77,81	16,72
Jarum	74,18	-1,89
Dadapan	74,09	-20,62
Kalipelus	60,52	-11,86
Sukalaksana	58,41	-14,65
Kebundadap Timur	50,73	-5,12

Source: Processed Results with Rapfish (2023)

Table 5 and Figure 10 illustrate that one village is in "Good" sustainability status for the Cultural Dimension, namely Serang Village with a score of 77.81; and 5 (five) other villages are in "fair" sustainability status, namely Jarum Village with a score of 74.18, Dadapan Village with a score of 74.09 Kalipelus Village with a score of 60.52, Sukalaksana Village with a score of 58.41, and East Kebundadap Village with a score of 50.73.

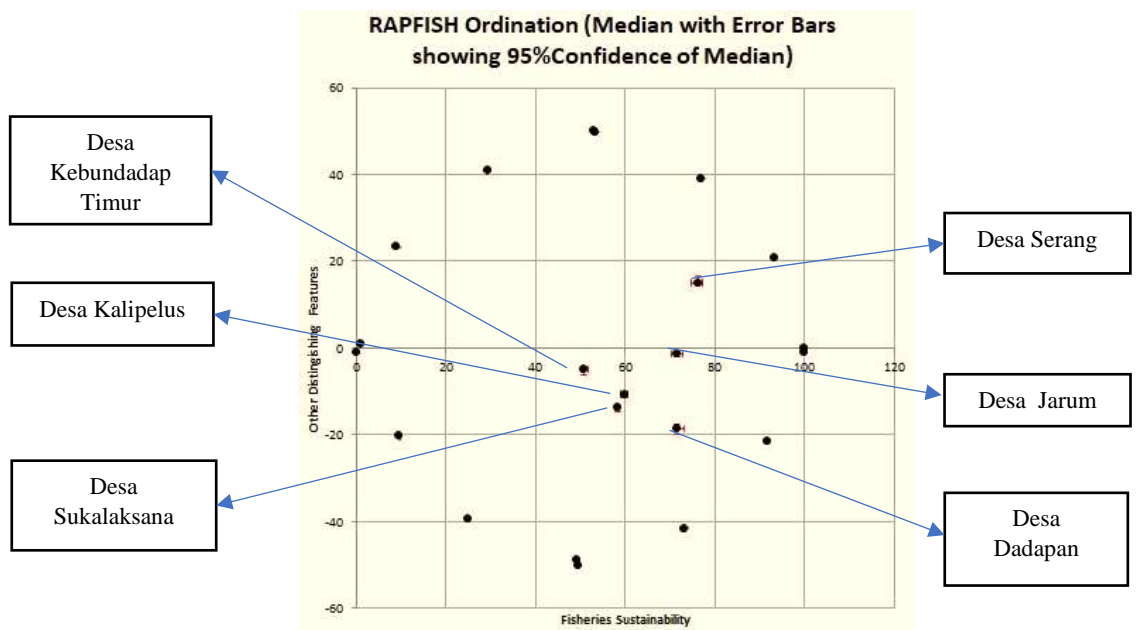


Figure 10. Ordinary Dimensions of Cultural Sustainability
Source: Processed Result (2023)

Leverage analysis on the Culture dimension, as shown in Figure 11, shows that the attribute "Traditional Activities or Typical Ceremonies in the Village" is the most influential attribute on the ordination of Tourism Village sustainability, followed by the attribute "Publication of Village Local Culture", and the attribute "Availability of Village Art Studio". Meanwhile, the attribute with the least influence on the ordination of Tourism Village sustainability in the Culture dimension is the attribute "Willingness to Practise Culture".

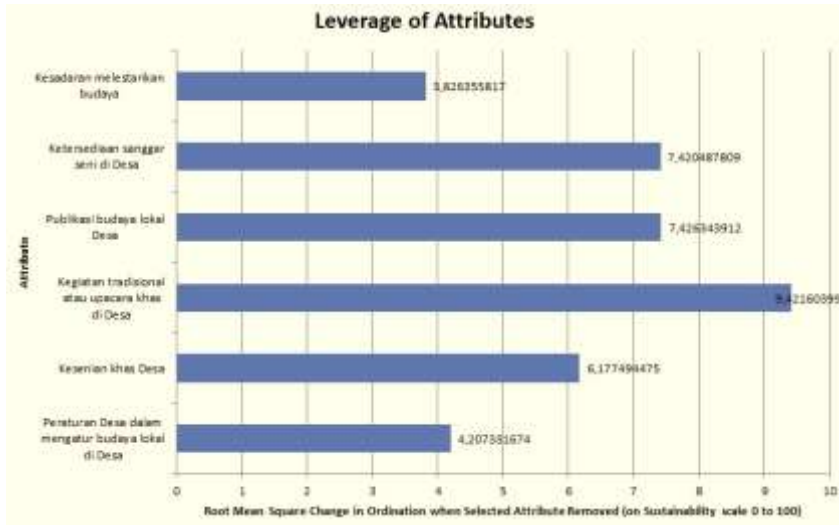


Figure 11. Result Leverage Analysis of Cultural Dimension
Source: Processed Result (2023)

For the Monte Carlo analysis, it shows that for Serang Village, Jarum Village, and Dadapan, the distribution of the dot plots tends to be rather wide, indicating that there is significant disturbance in these villages related to cultural aspects. Meanwhile, for Kalipelus Village, Kebundadap Timur Village, and Sukalaksana Village, the distribution of points tends to be densely clustered, indicating little "disturbance".

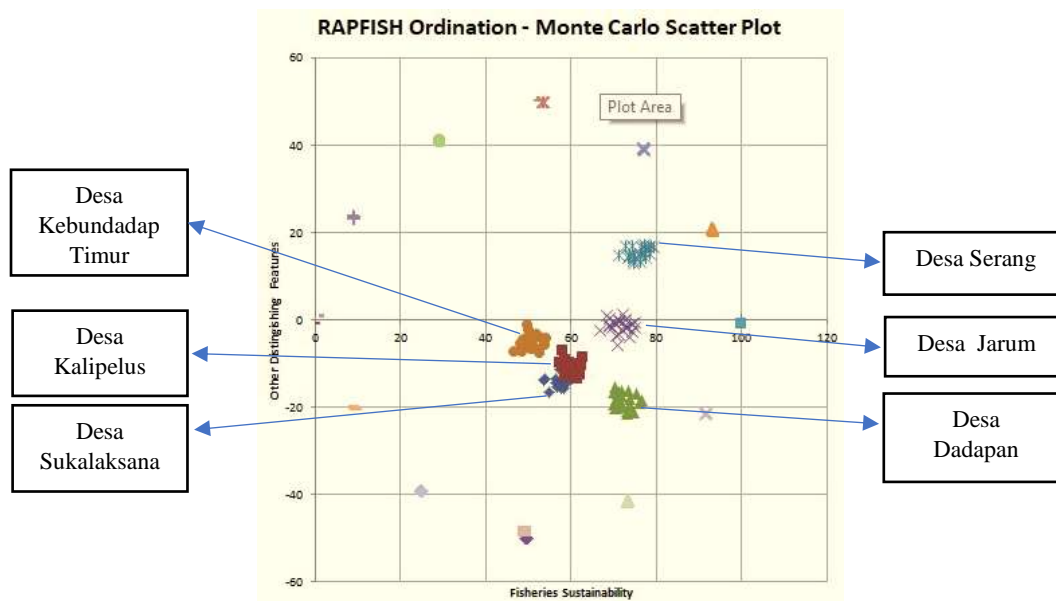


Figure 12. Monte-Carlo Analysis for Cultural Dimension
Source: Processed Result (2023)

3.5 Institutional Dimension

Analysis of the sustainability status of the institutional dimension in 6 (six) villages with attributes: Stakeholders involved, Development of POKDARWIS by Related Agencies, Role of POKDARWIS in Tourism Village Development, Development of BUM Desa by Related Agencies, and Role of BUM Desa in Tourism Village Development, indicating index values and scales as shown in Table 6 and illustrated in Figure 13.

Table 6. Sustainability index values and scale in the Institutional Dimension

Village	Values	Scale
Kalipelus	54,55	-9,60
Jarum	52,31	1,2
Dadapan	51,82	3,29
Sukalaksana	45,74	-1,89
Kebundadap Timur	45,21	9,70
Serang	44,47	3,47

Source: Processed Results with Rapfish (2023)

Table 6 and Figure 13 illustrate that 3 (three) villages are in a "sufficient" sustainability status for the Institutional Dimension, namely Kalipelus Village with a score of 54.55, Jarum Village with a score of 52.31, Dadapan Village with a score of 51.82; and three other villages are in a "less" sustainability status, namely Sukalaksana Village with a score of 45.74, Kebundadap Timur Village with a score of 45.21, and Serang Village with a score of 44.47.

The moderate and insufficient scores for the sustainability status of the institutional dimension illustrate that the role of institutions that support the development of tourism villages still needs to be improved, in this case the role of POKDARWIS and BUM Desa. As a village economic institution, BUM Desa, which has been recognised as a legal entity, plays an important role as a consolidator of community products/services, producer of various community needs, incubator of community businesses, provider of public services, and various other functions, and can be a contributor to the Village's original income while still providing benefits to the community (Permendesa, PD TT Number 3 of 2021). As the manager of Tourism Village, the role of BUM Desa is very important, both in creating employment opportunities at tourist destinations in the Village, but also as a facilitator for UMKM Village in promoting and selling their products. In addition, as the manager of the Tourism Village, BUM Desa also plays a role in community empowerment in partnership with various relevant stakeholders, in an effort to increase the income of village communities, and contribute to an increase in Village Original Revenue. Meanwhile, the Tourism Awareness Group (POKDARWIS) is an institution at the community level whose members consist of tourism actors who have concerns and responsibilities and play a role as a driving force in supporting the creation of a conducive climate for the growth and development of tourism and utilising it for the welfare of the surrounding community (Rudina et al., 2022).

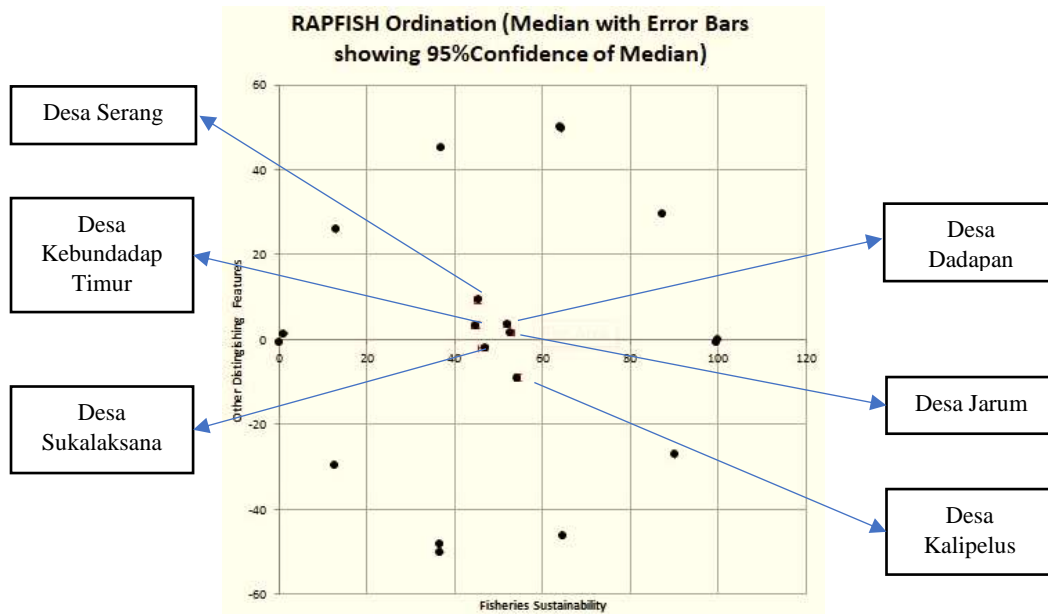


Figure 13. Ordinary Dimensions of Institutional Sustainability
Source: Processed Result (2023)

Of the six tourist villages, not all have received guidance from POKDARWIS. Sukalaksana Village is one of the villages that does not have a POKDARWIS, so so far it has never received guidance related to tourism awareness from agencies that have duties related to this, as well as guidance on BUM Desa, the guidance is still lacking. In contrast to the East Kebundadap Mangrove Tourism Village. This village already has a POKDARWIS that has worked together with BUM Desa in managing the Mangrove Tourism Village. Guidance from the National Tourism Office to POKDARWIS has been carried out, but BUM Desa may still need more guidance so that in managing the Tourism Village its role can be further enhanced. Serang Village, although POKDARWIS and BUM Desa already exist and run well, is still lacking in terms of guidance.

Based on the Leverage analysis of the Institutional dimension, the three main attributes that have high leverage are the attribute "Role of POKDARWIS in Tourism Village Development" with a value of 5.76; the attribute "Coaching of POKDARWIS by Related Agencies" with a value of 4.03 and the attribute "Coaching of BUM Desa by Related Agencies" with a value of 3.01.

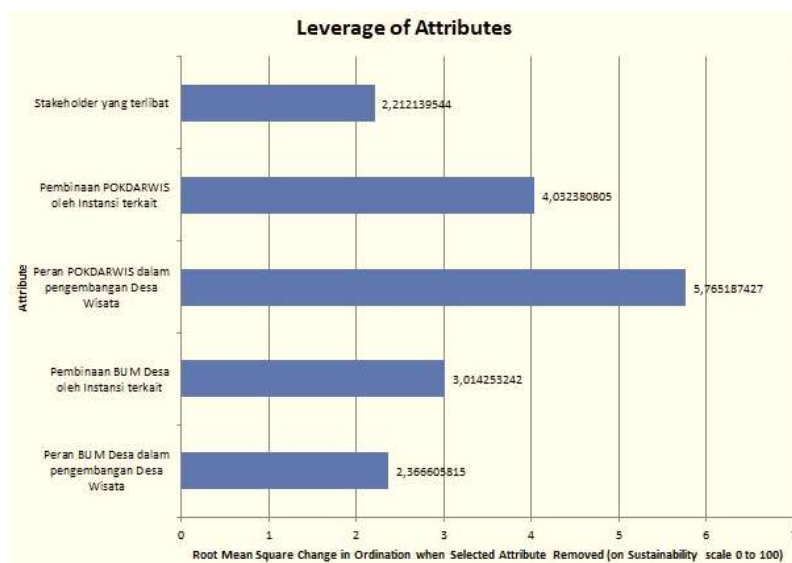


Figure 14. Result Lverage Analysis of Institutional Dimension
Source: Processed Result (2023)

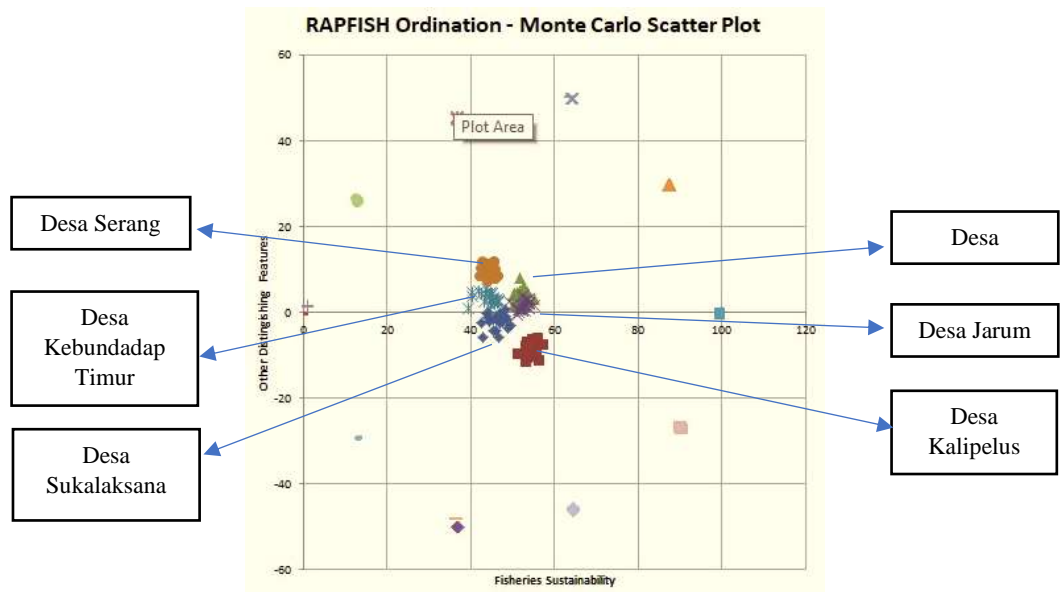


Figure 15. Monte-Carlo Analysis for Institutional Dimension
Source: Processed Result (2023)

For the Monte Carlo analysis, it shows that for Desa Kebundadap Timur and Desa Sukalaksana the distribution of dot plots tends to be rather wide, indicating that there is significant disturbance in these villages related to cultural aspects. Meanwhile, for Serang Village, Dadapan Village, Jarum Village, and Kalipelus Village, the distribution of points tends to be densely clustered, indicating "little disturbance".

3.6 Kite Diagram and Sustainable Radar Diagram

Based on the calculated values in 6 (six) Villages with 5 (five) dimensions, a diagram is obtained as can be presented with a sustainability kite diagram and a sustainable radar diagram as follows:

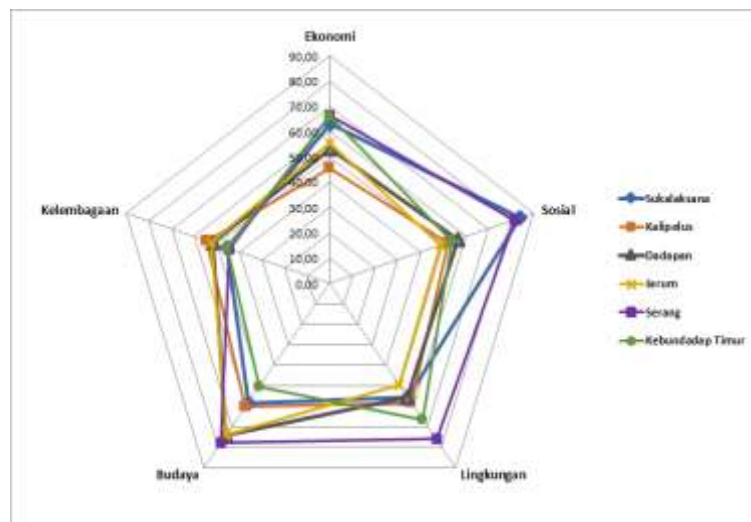


Figure 16. Sustainability kite diagram
Source: Processed Result (2023)

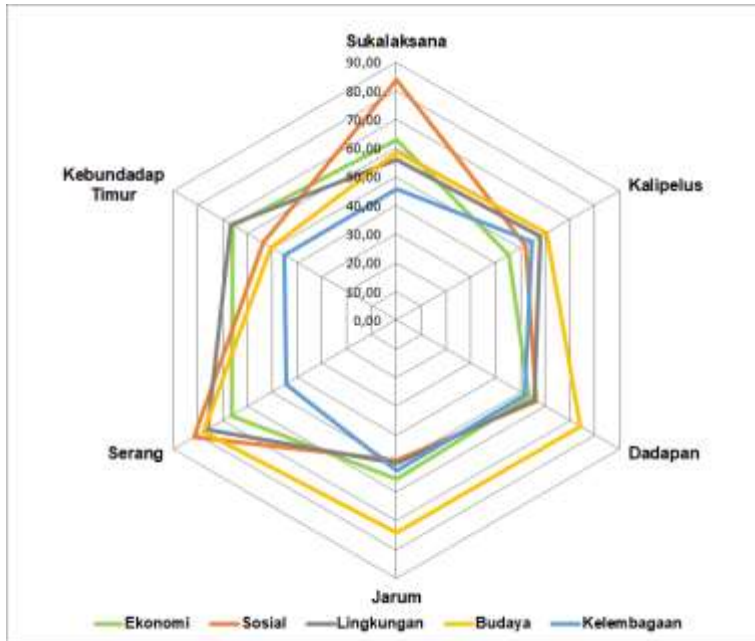


Figure 17. Sustainability radar diagram
Source: Processed Result (2023)

Based on the pie chart in Figure 16, there is a significant difference between the five dimensions. However, a look at the radar diagram shows that Sukalaksana Village has the highest score on the Social Dimension and the lowest score on the institutional dimension. Serang Village has the highest score in the social dimension and the lowest score in the institutional dimension. Kebundadap Timur village has the highest score in the environmental and economic dimensions, while the lowest score is in the institutional dimension. Jarum village has the highest score in the cultural dimension, while the lowest score is in the social dimension. Dadapan village has the highest score in the cultural dimension, while the lowest score is in the institutional dimension. Kalipelus village has the highest score in the cultural dimension, and the lowest score in the environmental dimension.

Based on the kite diagram and radar diagram, it can be identified that the dimension that needs attention from the six villages is the institutional dimension, in this case, institutions related to tourism, namely the existence and involvement of POKDARWIS, and economic institutions that are expected to support the village economy, namely BUM Desa. Coaching of these two groups of institutions is important because they are in direct contact with village officials and village communities. For the cultural dimension, almost all villages are already at a fairly and good sustainability status, so it only needs to be improved by preserving, exploring and promoting more.

- a. Sukalaksana Village shows good sustainability status in the social dimension, but poor sustainability status in the institutional dimension, while the other three dimensions show moderate sustainability status.
- b. Kalipelus village, showing less sustainability status in the economic dimension, while the other four dimensions show sufficient sustainability status.
- c. Jarum Village, in the social and environmental dimensions, shows a less sustainable status, while the other three dimensions show a moderately sustainable status.
- d. Dadapan Village, in all five dimensions, shows a moderate sustainability status.
- e. Kebundadap Timur Village, in the institutional dimension, showed less sustainability status, while the other four dimensions showed sufficient sustainability status.
- f. Serang Village shows good sustainability status in the Social, Environmental and Cultural dimensions, in the economic dimension shows sufficient sustainability status, while in the institutional dimension shows less sustainability status.

5. Conclusion

5.1. Conclusion

Based on the findings on the status of sustainability based on the economic, social, environmental, cultural, and institutional dimensions, the Tourism Villages in the six villages that were the object of the research have varying status as follows:

- a. In the economic dimension, Serang Village has the highest score with a sustainability status in the "sufficient" category.
- b. In the social dimension, Sukalaksana Village and Serang Village have the highest score with a sustainability status in the "good" category.
- c. In the environmental dimension, Serang Village has the highest score with a sustainability status in the "good" category.
- d. In the cultural dimension, Serang Village, Jarum Village, and Dadapan Village have the highest scores with a sustainability status in the "good" category.
- e. In the Institutional dimension, Kalipelus Village, Needle Village, and Dadapan Village, although their scores are not very high, they still fall into the "moderate" sustainability category.
- f. For the sensitivity of attributes in each dimension, the most sensitive or highest leverage in the economic dimension is the attribute of increasing community income, in the social dimension is the attribute of health workers in the village, in the environmental dimension is the attribute of waste management, in the cultural dimension is the attribute of traditional activities or typical ceremonies in the village, and in the institutional dimension is the attribute of the role of POKDARWIS in the development of tourist villages.

5.2. Limitation

This research focuses only on analysing the sustainability status of 6 (six) villages that have Tourism Village development programmes managed by BUM Desa, basing the assessment of their sustainability status on the economic, social, environmental, cultural and institutional dimensions. Meanwhile, problems related to the development of Tourism Village depend on many factors, such as the availability of road infrastructure, technological infrastructure, and others that have not been included in this study.

5.3. Suggestion

Based on the findings and limitations of the research, some suggestions that we can convey are:

- a. Other dimensions should be developed to analyse the sustainability status of tourism villages, including attributes in each dimension, so that the results of the analysis are more representative of the sustainability status.
- b. It is necessary to increase the number of analysis units (Tourism Villages) that become the object of research, including Tourism Villages whose management is not carried out by BUM Desa so that the resulting analysis will be more valid, given the large number of villages in Indonesia with a diversity of potential natural and cultural resources.

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References

- Cendrakasih, Y. U., Yudha, I. G., Yuliana, D., & Maharani, H. W. (2021). The Status Analysis Of Sustainability Of Tourism Development Guci Batu Kapal Beach In Maja Village, Kalianda, South Lampung. *Journal of Aquatropica Asia*, 6(2), 60-71.
- Fasa, A. W. H., Berliandaldo, M., & Prasetio, A. dkk (2022). Sustainable Tourism Villages Development Strategy Inindonesia: Pestel Analysis Approach. *Kajian*, 27(1), 71-87.
- Fauzi, A. (2019). *Teknik Analisis Keberlanjutan*. Jakarta: PT. Gramedia Pustaka Utama.
- Hafida, S. H. N., Dewi, R. P., Kesumaningtyas, M. A., Nastiti, B. A., Puspitasari, W., Masruroh, L., Meliani., Satria, A. B., Ali, F. A., & Bima, D. S. (2019). Analisis Keberlanjutan Desa Wisata (Studi Kasus Desa Wisata Sepakung, Kecamatan Banyubiru, Kabupaten Semarang). *Jurnal Ilmiah Pariwisata*, 24(3), 170- 176.
- Kartika, A. D., & Medlimo, R. A. (2022). Development Taman Surya Nusantara to Increase New and Renewable Energy in Indonesia. *Journal of Sustainable Tourism and Entrepreneurship*, 3(4), 301-312.
- Kasmahidayat, Y., & Hasanuddin, H. (2022). Collaboration strategy in the development and inheritance of Archipelago's Arts. *Journal of Indigenous Culture, Tourism, and Language*, 1(1), 1-20.
- Kennedy, P. S. J., Tobing, S. J. L., & Toruan, R. L. (2022). Marketing strategy with marketing mix for Lake Toba tourism destination. *Journal of Sustainable Tourism and Entrepreneurship (JoSTE)*, 3(3), 157-174.
- Lichauco, T. A. N. B. (2022). Sustainable resort-related tourism growth: Identifying challenges and opportunities in Montalban, Rizal. *Journal of Sustainable Tourism and Entrepreneurship*, 3(3), 217-233.
- Marhesa, R. H., Hakim, Luchman., & Pangestuti, E. (2022). Analisis Keberlanjutan Desa Wisata Ngargoretno, Kecamatan Salaman, Kabupaten Magelang. *Jurnal Tata Kota dan Daerah*, 14(1), 25-34.
- Mukhlisin, I., & Trimarsututi, J. (2023). Sustainability Analysis of Pentingsari Tourism Village Using Multidimensional Scaling Method with A Rap-Tour Approach. *Jurnal Perencanaan Wilayah & Kota*, 18(1), 26-38.
- Putri, Y. A., Mazni, A., & Suharto, S. (2021). Pengaruh Insentif dan Disiplin Kerja Terhadap Kinerja Pegawai Badan Pengelolaan Keuangan dan Aset Daerah Kabupaten Pringsewu Provinsi Lampung. *SIMPLEX: Journal of Economic Management*, 2(1), 250-266.
- [PP] Peraturan pemerintah No. 50 Tahun 2011 Tentang Rencana Induk Pembangunan Kepariwisata Nasional Tahun 2010 – 2025.
- [Permendes, PDTT] Peraturan Menteri Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi Nomor 3 Tahun 2021 Tentang Pendaftaran, Pendataan dan pemeringkatan, pembinaan dan Pengembangan, dan Pengadaan barang dan/atau Jasa Badan Usaha Milik Desa/Badan Usaha Milik Desa Bersama.
- Rudina, dkk (2022). Peran Kelompok Sadar Wisata (Pokdarwis) dalam pembangunan dan pengembangan Pariwisata di Desa Pela Kecamatan Kota Bangun kabupaten Kutai Kartanegara. *eJournal Ilmu Pemerintahan*, 10(4).
- Sudiby, B. (2018). Wisata Desa dan Desa Wisata. *Jurnal Bappeda Litbang*, 1(1), 21-25
- Suharto, M., Angkupi, P., Dacholfany, I., & Susminingsih, M. H. (2021). The Effect of Trust Commitments on Organization: Empirical Insights into Managerial Performance. *Journal of Hunan University Natural Sciences*, 48(12).
- Supheni, I., Ivada, E., Novianti, G. E., & Wiwin, W. (2022). Sustainable tourism from the perspective of tourists in Nganjuk Indonesia. *Journal of Sustainable Tourism and Entrepreneurship*, 3(3), 235-252.
- Suryana, A. Wiryawan, B., Monintja, D. R., & Wiyono, E. S. (2012). Analisis Keberlanjutan Rappfish dalam Pengelolaan Sumber Daya, Ikan Kakap Merah (*Lutjanus sp.*) di Perairan Tanjung Pandan. *Buletin PSP*, 20(1), 45-59.
- Sutawidjaya, A. H., Nawangsari, L. C., Permana, D., Siswanti, I., Pratama, A., Tarmizi & Ananda, V. R. dkk, (2020). *Green Management Strategy in Sustainable Development*. Jakarta: Bumi Aksara.
- Syarif, A., & Riza, K. (2022). Pengaruh Kepemimpinan Transformasional, Disiplin Kerja dan Komunikasi Terhadap Kinerja Pegawai pada Dinas Pendidikan Kepulauan Riau. *Jurnal Humaniora dan Ilmu Pendidikan*, 2(1), 33-41.

- United Nations (2017). Sustainable Tourism, Sustainable Goals Knowledge Platform. Retrieved from <https://sdgs.un.org/>.
- Wahyudi, D., Suharto, S., & Mazni, A. (2021). PENGARUH KINERJA KEPOLISIAN DAN CITRA KEPOLISIAN TERHADAP KEPUASAN MASYARAKAT PADA KASAT NARKOBA DI POLRES PRINGSEWU LAMPUNG. *SIMPLEX: Journal of Economic Management*, 2(1), 198-214.