A Sustainable Tourism Based on a New Institutional Economics Approach: Ecotourism Based on the Community in the Gasan Gadang Fishermen Village

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Abstract. This study aimed to determine the patterns of development and implementation of community-based ecotourism management and identify the impact of the community-based ecotourism in Gasan Gadang Village on the economic, social, and environmental aspects of the surrounding community. The methodology used was descriptive analysis with a new institutional economics approach and the Kruskal-Wallis Test analysis. The patterns of development and implementation of community-based ecotourism management with all levels of social change analysis, including formal and informal rules such as culture, customs, habits of Gasan Gadang villagers, institutional and governance management, and even the economy, are considered good. The Community-based ecotourism has adopted the theory of resource allocation among stakeholders of Gasan Gadang Village. The findings of this study showed that community-based ecotourism institutions and management bring positive impacts on economic, social, and culture. There was no significant difference among economic, social, and environmental impacts between the non-authorities and community-based ecotourism authorities of Gasan Gadang Village. Thus, it could be said that the benefits of community-based ecotourism received by the community were all the same. Everyone got positive benefits. However, based on the findings, it could be seen that the biggest difference was the economic impacts followed by the social impacts, while the smallest difference is the environmental impacts. From this situation, it could be concluded that the performance of community-based ecotourism authorities in Gasan Gadang Village was good and positively impacted the economic, social, and environmental aspects of the Gasan Gadang Village fishermen community.

1. Introduction
Tourism is a process, activity, and outcome that arises from the relationships and interactions between tourists, suppliers, local authorities, host communities, and the dynamic environment in attracting and entertaining visitors [1]. The development of tourism objects must be a big concern to the sustainability of tourism resources; hence the principle of sustainable tourism actively contributes to nature and cultural conservation activities [2] [3]. That involves local communities planning,
developing, and managing tourism and contributing positively to the welfare of the surrounding community [2] [4]. Along with the intensified development of the tourism sector by the Government of Indonesia, the industry continues to grow. It is marked by the increasing number of tourists coming to Indonesia in 2016-2020 [5]. This increase significantly impacted Indonesia, especially on tourism businesses and the economy. Indonesia’s economic development began to focus on rural development as stated in Law Number 06 of 2014 about Villages [6].

In the 2015-2018 National Medium-Term Development Plan document, there are development priority targets: reducing the number of Underdeveloped Villages and Disadvantaged Villages to 5,000 villages and increasing the number of Independent Villages to at least 2,000 villages by 2018 [6]. Meanwhile, the Ministry of Village strengthens the attempts to achieve village and rural development targets. Development of Disadvantaged Regions and Transmigration initiate a Village Development Index policy. The number and percentage of villages in Indonesia based on Village Development Index policy in 2018 showed there were still many underdeveloped and disadvantaged villages and the lack of developed and independent villages, so that village development needs to be optimized, one of them with tourism village programs [7].

A tourism village is a tourist area that presents an atmosphere reflecting rural authenticity in terms of social, economic, cultural, daily life and customs, has a unique architecture and spatial structure, or unique and interesting economic activities, and possesses the potential to develop[4], [8], [9]. Tourism villages have become new alternatives despite increasing product diversification in the tourism industry [10]. The development of the tourism villages concept is considered strategic to meet several agendas in tourism development [3,10]. Every village development program begins with planning from behind or from below by placing the village community as a foundation or starting point for each development program [13].

One of the rural tourism development activities is carried out in community-based tourism or called community-based ecotourism [14]. Community-based tourism is tourism that embodies culture, social and environmental sustainability [15]. Ecotourism is an alternative tourism concept that is widely applied in Indonesia [16], [17]. This can be seen from the Ministry of Tourism’s exposure, which states that 45% of all natural tourism products in Indonesia are Ecotourism. Ecotourism development is based on the National Tourism Development Master Plan, in which tourism development in Indonesia includes destination, marketing, industry, and tourism institutions regulated in Government Regulation Number 50 of 2011 about National Tourism Development Master Plan [6], [18]. A form of Ecotourism that emphasizes the development of local communities, allowing for local residents to have great control, involvement in development and management and most of the benefits that remain in the community are commonly called community-based ecotourism [8], [16], [19]. The social change model presents various stages that can be used to analyze community-based ecotourism institutions [20].

Rural development with tourism is an attempt to improve the social and economic life of rural communities, characterized by improved public access to various existing resources and facilities to obtain satisfaction in meeting the needs[21], [22]. Each village/rural development program starts from the back or planning from below by placing the community (village) as a starting point for each development program. Since the beginning of the 21st century, many diverse disciplines have contributed to rural development theory[23]. Tourism is one of the most important activities globally, involving millions of people, a huge amount of money, and providing jobs in the development of industrial countries[23], [24]. In tourism development, some factors determine the success of tourism development, namely 1) Availability of tourist objects and attractions; 2) Availability of accessibility, including facilities and infrastructure which enable and attract tourists to visit an area or tourist area;
Ecotourism is a natural tourism activity in the area that is responsible for paying attention to the elements of education, understanding, and support for the efforts to conserve natural resources and increase the income of local communities[27]. According to Syamsu & Putrisari (2016), community-based tourism requires careful planning and management, innovation, targeted marketing, and periodic monitoring to ensure success. Most importantly, the success of community-based tourism must be seen as a tool to achieve goals and accelerate development to maintain rural entrepreneurship in all economic sectors[15]. Community-based ecotourism is a form of Ecotourism that emphasizes local communities, allowing for residents to have great control, involvement in development and management, and most of the benefits remain in the community[14]–[16]. Community-based ecotourism must encourage sustainable use and shared responsibility and include individual initiatives in society. Meanwhile, community-based ecotourism implies that people take care of natural resources in the context of income generation through operating tourism companies and using their income to improve the lives of their members[16]. Therefore, community-based ecotourism involves conservation, business enterprises, and community development[10].

The province of West Sumatra is one of the provinces with a lot of ecotourism sites that can provide regional income[28]. It could be seen from the percentage of interest of tourists in Padang in 2016-2020. The highest percentage was foreign and domestic tourist’s interest in ecotourism of 55%, followed by the interest in cultural tourism of 30% and the interest in artificial tourism of 20%. The Province of West Sumatra’s strategy to develop ecotourism is by grouping cluster models of ecotourism attractions development[29]. One cluster is Gasan Gadang fishermen village offers mangrove forest as one of the Geosites in the area of West Sumatra coast developed with the concept of community-based ecotourism in Padang Pariaman District. Gasan Gadang fishermen village is a unique tourist attraction because it provides Mangrove forests and Turtles conservation, a new tourist attraction in Gasan Gadang fishermen village[30].

The existence of Gasan Gadang fishermen village has been recognized regionally/nationally. Various awards and achievements prove that Gasan Gadang fishermen village’s community-based ecotourism has succeeded and reflects the performance of the Gasan Gadang fishermen village authorities. It is proven by the increasing number of local and foreign tourist visits in 2016-2020. The increase in the number of tourists visits positively impacts the life of the Gasan Gadang fishermen's village community in terms of economic, social, and environmental aspects. Therefore, this study aims to determine the patterns of community-based ecotourism implementation and identify economic, social, and environmental impacts by the existence of Gasan Gadang fishermen village’s community-based ecotourism.

The main objective of this study is to present empirical findings to identify new institutional economics towards sustainable tourism in Gasan Gadang fishermen village community, Padang Pariaman District, Province of West Sumatra, Indonesia. The objectives of this study are: (1) To find out the benefits and limitations in the development of Gasan Gadang fishermen village; (2) To determine the impacts of community-based ecotourism in Gasan Gadang fishermen village on economic, social, and environmental aspects; (3) To identify new institutional economics in the institutional and governance of Gasan Gadang fishermen village.

2. Methodology
2.1 Research Location
Based on its nature, this study was conducted in the Gasan Gadang fishermen village community, Batang Gasan Sub-District, Padang Pariaman District, Province of West Sumatra. The Batang Gasan
Sub-District area of 40.31 Km² lies in parallel with the coastline at 0ºC 33’00”S and 100º 07’00”E. The sub-district consists of 2 villages (kenagarian) and 11 sub-village (korong) with Gasan Gadang as the sub-district capital. Administratively, the sub-District borders with Agam district on the North; Koto Aur Malintang IV and Sungai Limau sub-Districts on the South, and the Indian Ocean on the West[31]. The area has a tropical climate, and the recorded maximum air temperature was 27ºC and minimum was 21ºC. The humidity level is 80%, while wind speed varies between 1.5 – 14.1 knots. Meanwhile, the average annual precipitation was 3,356 mm/year, with an average rainy day of 74 days. The highest precipitation happened during November and the lowest in June[30].

The mangrove forest in the Batang Gasan sub-district grows in a cluster in four sub-village, with each two sub-village are located close to each other. A cluster of estimated approximately 75 Ha in Tanjung sub-village, Mandahiling sub-village, Sungai Sarik sub-village, and Kantarok sub-village are dominated by Aegiceras floridum and Sonneratia Caseolaris that grow in an estuary near the river delta on muddy soil and are influenced by daily tides. The majority of the coastal population works in the marine and fishery sectors. In 5 coastal sub-village, 1,039 households work for the industry, while 52.16% in agriculture, plantation, trade/service, public officials, and other sectors[30], [32].

2.2 Data
This study is quantitative descriptive [33][34][35][36], and it is done based on theoretical and econometric studies[37]. This study was conducted in March-July 2021. The data taken were data on economic impact, social impact, and environmental impacts on the community of the community-based ecotourism authorities and the community of non-community-based ecotourism authorities in the Gasan Gadang fishermen village community. The simple was part of the number and characteristics possessed by the population. The formula used to determine the sample size was using the Slovin technique[33].

\[
N = \frac{n}{1 + \frac{n(n-1)}{8\alpha^2}}
\]

\[
= \frac{89,05}{1 + 89,05(0.05)^2}
\]

\[
= 89,05; \text{rounded up into 89 respondents.}
\]

Note:
- \(n\) = Sample size/population
- \(N\) = Population size
- \(0.\alpha^2\) = Significance Level

2.3 Analysis Tool
This study used descriptive analysis with a new institutional economics approach to find out the patterns of community-based ecotourism implementation in the Gasan Gadang fishermen village community[37]. This approach was adopted from Williamson’s model and focused on two levels of analysis, namely Level II in the formal institutional environment and Level III in governance/management[37]. The Kruskal-Wallis Test used the statistical test, a ranking-based non-parametric test whose purpose is to determine whether there is a statistically significant difference between two or more groups of independent variables on the dependent variable that scales numerical data (interval/ration) and ordinal scale[38], [39]. The differences tested were economic, social, and environmental impact between the authorities and the non-community-based ecotourism authorities of the Gasan Gadang fishermen village community.
3. Result And Discussion

3.1 The Benefits of Gasan Gadang fishermen village community

In recent years, tourism activities in the Gasan Gadang fishermen village community have had an increasing trend with better tourism management and governance. Rural tourism development requires qualified human resources who are responsible for environmental, economic, and social sustainability[14], [15].

Table 1. Outputs on Respondents’ Average Points on Economic, Social, and Environmental Aspects

| No | Benefits                                                                 | Classification | Mean  | Std. Dev. |
|----|---------------------------------------------------------------------------|----------------|-------|-----------|
| 1  | Increasing local economy                                                  | Economic       | 4.16  | 0.588     |
| 2  | Reducing unemployment                                                    |                | 4.16  | 0.512     |
| 3  | Providing employment opportunities                                        |                | 4.18  | 0.474     |
| 4  | Emerging new entrepreneurs                                               |                | 4.20  | 0.423     |
| 5  | Increasing community income                                              | Economic       | 4.03  | 0.542     |
| 6  | Reducing poverty                                                          |                | 4.00  | 0.477     |
| 7  | Increasing community assets                                              | Economic       | 4.07  | 0.505     |
| 8  | Increasing village assets                                                |                | 4.10  | 0.448     |
| 9  | Increasing selling value                                                 |                | 4.15  | 0.555     |
| 10 | Developing infrastructures                                               |                | 4.10  | 0.396     |
| 11 | Attracting investments                                                   |                | 3.90  | 0.565     |
| 12 | Developing entrepreneurship and other industries                          |                | 4.10  | 0.518     |
| 13 | Increasing prices                                                         |                | 3.23  | 0.655     |
| 14 | Economic development of tourism environment                               | Economic       | 4.05  | 0.505     |
| 15 | Maintaining the custom characteristics                                   | Cultural       | 4.10  | 0.490     |
| 16 | Improving cultural sustainability                                         | Cultural       | 4.15  | 0.463     |
| 17 | Increasing the image                                                      | Social         | 4.35  | 0.541     |
| 18 | Community involvement                                                    |                | 4.35  | 0.475     |
| 19 | Protecting and preserving the environment                                 |                | 4.40  | 0.518     |
| 20 | Sustainable management                                                    |                | 4.60  | 0.563     |
| 21 | Keeping the environmental and natural resource                           |                | 4.70  | 0.500     |
| 22 | Environmentally friendly                                                  |                | 4.10  | 0.424     |
| 23 | Environmental sustainability education                                     | Environmental  | 4.45  | 0.541     |
| 24 | Education to improve the development of Community-Based Ecotourism       |                | 4.38  | 0.528     |
| 25 | Young generations to learn about environmental sustainability             |                | 4.45  | 0.523     |

*Source: Primary Data, 2021*

Tourism development in the Gasan Gadang fishermen village community carrying the concept of community-based ecotourism is an opportunity to develop the community and introduce the Gasan Gadang fishermen village community internationally. The concept of the Gasan Gadang fishermen village community-based ecotourism provides various benefits for the regency and village governments, including the Gasan Gadang fishermen village community, namely economic, social and environmental benefits.

For the last six years, the Gasan Gadang fishermen village community development shows a trend of an increasing number of foreign tourist visits. This increase leads the management income to rise. As an impact, there is an improvement on the local and regional economy as well as the income of the
Gasan Gadang fishermen village community. The Gasan Gadang fishermen village community is also increasingly motivated to be entrepreneurs by starting small culinary businesses, processing dry fish commodities such as salt fish and shrimp to support tourism businesses hence the number of infrastructures owned by the village and the community. However, there is an increase in prices around tourist sites, such as the selling value of land and buildings in the Gasan Gadang fishermen village community.

From a social point of view, the development of Gasan Gadang fishermen village’s community-based ecotourism which increasingly shows good quality, helps Gasan Gadang fishermen village get awarded the Best Province Tourism Village in 2019. It then leads to a better image of Gasan Gadang fishermen village in the eyes of other regions. Although it has been internationally recognized, the Gasan Gadang fishermen village still maintains the characteristics of customs and preserves regional culture. Every year it always carries out cultural events such as coastal festival shows, such as Festival of babantai, Festival of sacrifice, Festival of fasting, singing performances, etc. Meanwhile, the community, alongside Gasan Gadang fishermen village’s community-based ecotourism authorities has been increasingly aware of the importance of preserving the environment and natural resources shown on the data average of 4.65. It means that the majority of respondents strongly agree to protect the environment and natural resources. The following are the respondents’ average points on economic, social, and environmental impact.

### 3.2 The Limitation in the Development of Gasan Gadang fishermen village

Rural tourism is an activity that focuses on developing the quality of Human Resources and the community itself[2]. While the concept of community-based ecotourism applied in Gasan Gadang fishermen village emphasizes governance and development management of Human Resources, which is the community around the tourist site and the benefits can be found in the community itself. Therefore, it has not only positive effects but also a negative impact on social and environmental aspects. The negative impact on social and environmental aspects include: changes on in people’s lifestyle such as consumerism and changes on the way of thinking: limited time to spend with families, especially for those working as community-based ecotourism authorities in Gasan Gadang fishermen village since the working system applied is 12 hours a day with a maximum of 3-4 working days including Saturdays and Sundays. In addition, Gasan Gadang fishermen village is open for tourists within 24 hours, so environmental security vulnerabilities occur. It must be managed and put into a concern to avoid any unwanted things from happening.

Based on Table 2, the average outputs of respondents’ points on perceived negative impact indicates that the existence of Gasan Gadang fishermen village did not reduce the moral/ethical values of the community. The respondents answered the statement with an average point of 1.56 which means that they disagreed. The traffic issues also did not increase. On the contrary, the access road to Gasan Gadang fishermen village became easier to pass, or in other words, the respondent disagreed with the statement (average point of 1.70). The existence of Gasan Gadang fishermen village also did not increase criminal activities (average point of 1.36/disagree). Likewise, with the long-term negative impacts, the community did not agree with the statement of the increasing long-term impacts (average point of 1.34) because the longer the community is expected to be more concerned and aware of nature sustainability. While for the statement of increasing the short-term impact on the environment, the respondents did not agree with it (average point of 1.56). Therefore, the involvement of the local community in the implementation of community-based ecotourism in Gasan Gadang fishermen village did not bring a bad influence on the social environment, but it only needs a little attention in order to minimize or prevent any negative impacts from occurring.
### Table 2. Outputs on Respondents’ Average Points on Social and Environment Aspects

| No | Limits/Negative Impacts                                      | Mean | Std. Dev | Note     |
|----|------------------------------------------------------------|------|----------|----------|
| 1  | Decreasing moral/ethical value                            | 1.56 | 0.533    | Less Agree |
| 2  | Increasing traffic issues                                 | 1.70 | 0.687    | Less Agree |
| 3  | Changing lifestyle                                        | 2.55 | 0.977    | Quite Agree |
| 4  | Increasing criminal activities                            | 1.36 | 0.661    | Disagree  |
| 5  | Long term negative effect to the environment              | 1.34 | 0.542    | Disagree  |
| 6  | Short term negative effect to the environment             | 1.56 | 0.583    | Less Agree |

*Source: Primary Data, 2021*

### 3.3 The Impact of Community-Based Ecotourism on Economic, Social, and Environmental Aspects.

Rural tourism is an important sector in the development of regional and village economic and social aspects. The recognition of Gasan Gadang fishermen village nationally showed the success in its management. This success was achieved due to the good performance of the Community-Based Ecotourism authorities of Gasan Gadang fishermen village, proven by the trend of Gasan Gadang fishermen village’s community-based ecotourism development in 2016-2020.

![The Trend of Gasan Gadang fishermen village](image)

*Source: Pokdarwis of Gasan Gadang Tourism Village, 2021*

**Figure 1.** The Trend of Gasan Gadang fishermen village’s community-based ecotourism Development in 2016-2020

Based on Graphic 1, it can be seen that the number of domestic tourist visits from 2016-2020 has significantly increased. Within those three years, Gasan Gadang fishermen village became a great demand of domestic tourists due to Gasan Gadang fishermen village, which, at that time, was a new tourist attraction. Even though in 2015 the number of domestic visits was very significant, many tourists were irresponsible with the surrounding environment by scribbling (vandalism) and playing with fire, which accidentally hit the small pavilion in Gasan Gadang fishermen village.

This situation led the community-based ecotourism authorities of Gasan Gadang fishermen village to reduce the target number of tourist visits in order to keep the tourist sites comfortable, beautiful, and sustainable. In addition, efforts were made to improve the tourist sites, thus in 2016-2020, the tourist visits decreased. The decrease in domestic tourist visits is inversely compared to the number of foreign tourists visiting Gasan Gadang fishermen village. In 2016-2020, the number of domestic visiting...
tourists increased. It was because, in 2020, Gasan Gadang fishermen village had been recognized locally by being awarded the Best Province Tourism Village in 2019.

**Figure 2.** Number of Poor Families in Gasan Gadang Village in 2016-2020

Despite the decrease in the number of domestic tourist visits in 2016-2020, the income of Gasan Gadang fishermen village increased in 2018, the income of the authorities was recorded at Rp. 1,422,915,00,00 and in 2019 the income increased to Rp1,541,990,000.00. In 2020, the income of the authorities amounted to Rp1,801,710,500.00, and in 2017 it reached Rp1,963,455,000.00. The income went to Regency Government retribution in Rp345,726,000.00 in 2019 and Rp304,068,00.00 in 2020. In addition, the income from the authorities also went to the Village cash savings and BUMNag (Village-owned Enterprises). Based on Figure 1, Gasan Gadang village’s cash savings and BUMNag within 2016-2020 increased, which means that Gasan Gadang village had been increasingly prosperous.

Another perceived impact is the decrease in the number of low-income families in Gasan Gadang village in 2016-2020*. Based on Figure 2, it can be seen that the number of low-income families in 2017 was 345 households and decreased from 2015 to 450 households, while in 2018. It also decreased from 2017, which was 235 households (temporary amount). It indicates that the performance of Gasan Gadang village’s community-based ecotourism authorities has a positive impact on the welfare of the community.

**Table 3.** Results of the Kruskal-Wallis Test

| RANKS            | CBET Management | N  | Mean Rank |
|------------------|-----------------|----|-----------|
| Economic Impact  | Authorities     | 35 | 40.87     |
|                  | Community       | 55 | 47.49     |
|                  | Total           | 90 |           |
| Social Impact    | Authorities     | 34 | 44.13     |
|                  | Community       | 56 | 45.54     |
|                  | Total           | 90 |           |
| Environmental Impact | Authorities | 36 | 45.59     |
|                  | Community       | 54 | 44.64     |
|                  | Total           | 90 |           |

*Source: Office of Gasan Gadang Village, 2021

**Table 3.** Results of the Kruskal-Wallis Test

| RANKS            | CBET Management | N  | Mean Rank |
|------------------|-----------------|----|-----------|
| Economic Impact  | Authorities     | 35 | 40.87     |
|                  | Community       | 55 | 47.49     |
|                  | Total           | 90 |           |
| Social Impact    | Authorities     | 34 | 44.13     |
|                  | Community       | 56 | 45.54     |
|                  | Total           | 90 |           |
| Environmental Impact | Authorities | 36 | 45.59     |
|                  | Community       | 54 | 44.64     |
|                  | Total           | 90 |           |

*Source: Primary Data, 2021
The success in the management of Gasan Gadang village’s community-based ecotourism can be proven by quantitative data obtained from questionnaires disturbed to 90 respondents, including the community authorities and non-authorities Gasan Gadang village’s community-based ecotourism and processed by non-parametric statistical tests, namely the Kruskal-Wallis Test. Respondents who were community-based ecotourism authorities were 35, while the non-community-based ecotourism authorities were 55 respondents. This Kruskal-Wallis Test was done because the data obtained in this study were not normally distributed. The variables used in this study were Community-Based Ecotourism authorities, economic impacts, social impact, and environmental impact.

**Table 4. Outputs of the Kruskal-Wallis Statistical Test**

|                      | Economic_Impact | Social_Impact | Environmental_Impact |
|----------------------|-----------------|---------------|-----------------------|
| Chi-Square           | 1.427           | .063          | .029                  |
| Df                   | 1               | 1             | 1                     |
| Asymp. Sig           | .232            | .801          | .865                  |

a. Kruskal-Wallis Test

b. Grouping Variable:
   CBET management

*Source: Primary Data, 2021*

This study identified significant differences between economic, social, and environmental impacts.

1. The study hypotheses in the Kruskal-Wallis Test are:
   H0: There are no significant differences in the economic, social, and environmental impact between community-based ecotourism authorities and non-community-based ecotourism authorities.
   H1: There are significant differences in economic, social, and environmental impacts between community-based ecotourism authorities and non-community-based ecotourism authorities.

2. Critical Limit= 0.05

3. Kruskal-Wallis Test Assumptions:
   If the value of P Value< critical limit -> accepts H1 and rejects H0
   If the P-Value > critical limit -> gets H0 and rejects H1

4. The outputs of the Kruskal-Wallis Test are as follows:
   Based on the outputs of the Kruskal-Wallis test shown in the Test-Statistics table, the P-value (Asymp. Sig) on the economic_impact variable, the-social impact variable, and the environmental_impact variable is greater than. 0.05 that it receives H0. It means that there is no significant difference between the economic—social, and environmental impact on the community and the authorities. The average ranking of the community and the authorities is 40.97. While on the social impact variable, the average ranking of community groups is 45.45, and the authority's is 44.13. in the environmental impact variable, the average ranking of the community group is 44.64 while the authority's is 45.59. Chi-Square values (H/Kruskal-Wallis values) are greater means the difference between groups is greater. Based on the Test-Statistic table, it can be seen that the Chi-Squared value of economic impact is the greatest than the other variables. The most significant difference is the economic impact variable, and the medium difference is in the social impact, while the environmental impact has the least difference.

**Table 5. Economic, Social, and Environmental Impact from Community-Based Ecotourism Gasan Gadang village**
| Positive | Negative |
|----------|----------|
| **Economic Impacts** | Increasing the local economy of Gasan Gadang Village |
| Reducing the number of poor people in Gasan Gadang Village |
| Offering job vacancies for Gasan Gadang Village community |
| Reducing unemployment in various fields |
| Emerging of new economic income of Gasan Gadang Village community |
| Increasing the economic income of the Gasan Gadang Village community |
| Assisting the development of village infrastructure |
| Increasing the assets owned by villages and communities elevating local wisdom and the culture for a harmonious life |
| **Social Impact** | Community groups appear to have productive economic activities and support Ecotourism |
| Improving the image of Gasan Gadang Village locally and nationally |
| **Environmental Impact** | Giving opportunities to preserve local culture, such as cultural festivals. Strengthening the cooperation among Gasan Gadang Village Community |
| No more environmental exploitation due to new job opportunities |
| Emerging environmental awareness |

Source: Primary Data, 2021

3.4 Institutional Environment

According to Williamson, Level I is the most important social change in society and requires a very long time [37]. The Gasan Gadang Fishermen Village’s community-based ecotourism starts from informal discussions initiated by the community-based ecotourism authorities and the community of non-community-based ecotourism authorities in the Gasan Gadang fishermen village community. Community-based ecotourism is formed by utilizing various informal rules, traditions, and cultures of the local community. Until today the change in the mindset of the community and Gasan Gadang Fishermen Village tourism business persons is still proceeding towards sustainable community-based ecotourism management and supporting rural development. Level II is related to an institutional environment that emphasizes ownership economics, which includes formal rule structures such as politics, social, and law for exchange and distribution production activities, at the level of the first order economization institution. The community does the management of the Gasan Gadang Fishermen Village through an organization formed under BUMNag of Gasan Gadang Village, namely Tourism Awareness Group (Pokdarwis). The Pokdarwis in Gasan Gadang Village has a total membership of 100 people, and it is applying the concept of community-based ecotourism. The community-based ecotourism concept that is implemented certainly involves the local community because all Pokdarwis members are Gasan Gadang Fishermen Village community who can create employment opportunities and reduce the number of unemployed people in Gasan Gadang Fishermen
Village. Despite the community-based ecotourism authorities of Gasan Gadang Fishermen Village, the community members who are non-authorities are also involved in village tourism monitoring and evaluation activities through regular meetings every Monday night involving Pokdarwis, the village community, and village officials.

On the other hand, the institutional management (legality) in Gasan Gadang Fishermen Village can be seen at the Decree of the Head of Village of Gasan Gadang Number: 9/KPT/GS/2016 about the Establishment of Gasan Gadang Fishermen Village Awareness Group (Pokdarwis). Thus, it can be said that the institutional management of the community-based ecotourism authorities of Gasan Gadang Fishermen Village is approaching order 1 (one) of the economic, institutional environment or in other words, it is already well organized.

3.5 Institutional Governance

According to Williamson, an agreement among economic units to manage and find a way for relations among them can run well through collaboration and competition [37]. Contracts and cooperation must support good institutional governance. The Pokdarwis in Gasan Gadang Fishermen Village participated in various competitions to promote the tourism village, increase human resource capacity, and manage internal improvements. The management of Community-Based Ecotourism in Gasan Gadang Fishermen Village is progressing with many achievements and awards from the province. In 2019, Gasan Gadang Fishermen Village became the Best Province Tourism Village, achieved by good internal cooperation and collaboration among stakeholders.

In accordance with Williamson’s [37], Level III Model Analysis of Social Change, Gasan Gadang Fishermen Village carries out several collaborations, including: (1) Internal Management Cooperation; (2) Collaboration with Media; (3) Collaboration with Community; (4) Collaboration with Academics; (5) Collaboration with Government; (6) Collaboration with Private Parties; (7) Collaboration with State-owned Enterprise (BUMN); and (8) Collaboration with NGOs. As an example, the collaboration between community-based ecotourism authorities of Gasan Gadang Fishermen Village and the private parties and BUMN includes: Bank Nagari with grants for the development and construction of Minang Mart in the amount of Rp. 100,000,000.00; Bank Indonesia in the form of cooperation in assisting farmer group in training, management, and development of the fish product; Pertamina in the form of cooperation, namely the development of Gasan Gadang Fishermen Village agro-tourism, especially for technical and operational activities in Gasang Gadang. The process involves transaction costs among the Gasan Gadang Fishermen Village stakeholders for coordination and managing cross-actors.

Resource allocation in community-based ecotourism has involved theory practices which are reflected in the relationship between community-based ecotourism authorities, Gasan Gadang Fishermen Village Government, Padang Pariaman District Regency Government, and the Community as principals of developing Gasan Gadang Fishermen Village tourism along with the supporting amenities of Gasan Gadang Fishermen Village in accordance with Level IV in Williamson’s model.

4. Conclusions

The patterns of development and implementation of community-based ecotourism management in Gasan Gadang fishermen village by Williamson’s model, covering all levels of Social Change. Analysis including formal and informal rules such as culture, customs, the habits of Gasan Gadang villagers, and institutional and governance environment can be considered good even based on economic aspects. The community-based ecotourism management has adopted the theory of resource allocation among stakeholders of Gasan Gadang fishermen village. Community-based ecotourism authorities make various improvements, always set networks in local/regional/national areas, and implement the Pentahelix concept (Community, Government, Business, and Higher Education) in
developing Gasan Gadang fishermen village towards sustainable tourism. Based on the results of this study, community-based ecotourism institutions and management have an economic, social, and cultural impact in positive ways. There is no significant difference between the economic, social, and environmental impacts between the non-authorities and community-based ecotourism authorities of Gasan Gadang fishermen village thus, it can be concluded that the benefits of community-based ecotourism received by the community are no different every one receives the benefits in positive ways. Based on data analysis, the biggest difference found is the economic impact followed by the social impact while the smallest difference in the environmental impacts hence the performance of Gasan Gadang fishermen village community-based ecotourism authorities is already good and brings positive impact on the economic, social and environmental aspects of Gasan Gadang fishermen village community.

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