

COMMUNITY'S PERCEPTION OF POST-TIMAH MINING LAND MANAGEMENT AS AIK NIBUNG ARD GARDEN AGRO-ECOTOURISM IN BADAU VILLAGE

Persepsi Masyarakat Terhadap Pengelolaan Lahan Pasca Tambang Timah Sebagai Agro-Ekowisata Aik Nibung ARD Garden Desa Badau

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ABSTRACT

The development of Aik Nibung agro-ecotourism ARD Garden in Badau Village is a post-tin mining management business. This activity cannot be separated from the mainstay role of farmers in this management. This study aimed to identify various forms of business management of post-tin mining land by leading farmers and to describe community perceptions of post-tin mining land management in Badau Village. This research is a case study with a descriptive research method and is analyzed qualitatively using a Likert scale. Sampling was done purposively (purposive sampling) with a total of 30 respondents. Data was collected through questionnaires, observations, interviews, and documentation. The results showed that: 1) The business managed by farmers is the mainstay in developing the Aik Nibung agro-ecotourism area ARD Garden, namely celocia, sunflower and button flower gardens, horticultural plant cultivation and tilapia fish cultivation; 2) The community's perception of pre-management of post-tin mining land is in agreement with an index coefficient value of 78.2%. Community perceptions of post-mining land management agree with an index coefficient value of 78.7% and community perceptions of successful post-mining land management strongly agree with an index coefficient value of 83.17%. With an average index coefficient value of 80.02% at the level of strongly agree.

Keyword: *agro-ecotourism, mainstay farmer, perception, post-mining land*

ABSTRAK

Pengembangan agroekowisata Aik Nibung ARD Garden di Desa Badau merupakan usaha pengelolaan di lahan pasca tambang timah. Kegiatan ini tidak lepas dari peran petani andalan dalam pengelolaan tersebut. Tujuan penelitian ini untuk mengidentifikasi berbagai bentuk usaha pengelolaan lahan pasca tambang timah oleh petani andalan dan mendeskripsikan persepsi masyarakat terhadap pengelolaan lahan pasca tambang timah di Desa Badau. Penelitian ini merupakan studi kasus dengan metode penelitian deskriptif dan dianalisa secara kualitatif menggunakan skala likert. Pengambilan sample dilakukan secara sengaja (purposive sampling) dengan jumlah responden sebanyak 30. Data dikumpulkan melalui kuisisioner, observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa: 1) usaha yang dikelola oleh petani andalan dalam mengembangkan kawasan agroekowisata Aik Nibung ARD Garden yaitu taman bunga celocia, bunga matahari dan bunga kancing, budidaya tanaman hortikultura dan budidaya ikan nila; 2) persepsi masyarakat terhadap pra pengelolaan lahan pasca tambang timah adalah setuju dengan nilai koefisien iindeks 78,2%. Persepsi masyarakat terhadap pelaksanaan pengelolaan lahan pasca tambang timah adalah setuju dengan nilai koefisien indeks 78,7% dan persepsi masyarakat terhadap keberhasilan pengolahan lahan pasca tambang timah adalah sangat setuju dengan nilai koefisien indeks 83,17%. Dengan nilai rata-rata koefisien indeks keseluruhan 80,02% pada level sangat setuju.

Kata kunci: *agro-ekowisata, petani andalan, persepsi lahan pasca tambang*

INTRODUCTION

Mining is one of the main sectors driving the Indonesian Economy, apart from agriculture. Irzon (2021) explains that Indonesia is in the Southeast Asian tin belt which stretches from the Indochina peninsula (Myanmar, Thailand, and Malaysia) to the islands east of Sumatra and west of Kalimantan so that it provides advantages in the form of large natural resources in the mining sector, especially tin. This also makes Indonesia the second largest tin producing country in the world after China with a production deficit reaching 69,600 metric tons 25% of total world tin production (Kurniawan, 2022). Most of Belitung Province is illegally mined for tin. This activity is based on local government guidelines to support local communities in the midst of an economic crisis (Pirwanda & Pirngadie, 2015). Ibrahim (2015) analyzes the tin mining turns out to be out of control because of out of tens of thousands percentage of licensed community mining units is estimated to be only around 30%.

However, the tin mining sector, which is essentially a type of non-renewable natural resource, has brought new problems to the economic sector, which have an impact on the livelihood of the community on a micro and national economic basis. Post-tin ore mining topography has undergone significant changes in landscape, nutrient runoff, and soil physical and chemical

properties compared to previous conditions, resulting in ecological damage to the region (Lestari et al., 2019). Erfandi (2017) examines former mining sites are categorized as irregular formations of mine holes (cavities) and notch mounds. Sabri et al. (2020), analyzes the pit feature is caused by the surrounding land cover drying out, causing massive evaporation. Soil quality is also degraded, as the flat terrain consists of former tin-mining areas dominated by Entisor and Altisor, which consist of red-yellow podzol, kaolin and iron condensates (Nurtjahya et al., 2020). Crop technology using improvers and mulch can provide nutrients that improve farming growth after tin mining (Lestari et al., 2019). Law No. 32 Year 2004 on Local Government and Law No. 4. MINERBA on the legal basis for post-mining rehabilitation by local governments of Bangka Belitung Province (Sari & Buchori, 2015). The unreliability of the tin mining sector also certainly has a significant impact on the situation of empowering human resources who can no longer depend on the mining sector, furthermore they have a new task to find alternatives in other sectors.

One of the non-mining sectors being sought as an alternative post-mining step is the tourism sector. Post-mining land, which was originally critical and unproductive land, is then managed so that it transforms into a tourist object that can become a new economic model for the community. The revival of the tourism sector stems from the momentum of *Laskar Pelangi* which is a film based on the novel by Andrea Hirata which is full of educational values exposing the Bangka Belitung area so that it opens opportunities for the audience of this film to visit massively the filming locations along with tourist attractions which are also highlighted in the film (Zukhri et al., 2015). However, this temporary momentum is then used by the community to form a cycle that has a sustainable element for the continuity of the community's socio-economic life. "Rainbow Troops" was the initial kick-start to build the name of Belitung Island as a tourist area not only on a domestic scale, but also on an international scale.

The next step taken by the local community is to diversify, which means expanding and diversifying the tourism sector. The tourism sector certainly has various types and varieties that can be explored according to the regional potential on Belitung Island. One of the sub-sectors found to have considerable potential is the agro-ecotourism sub-sector. Eco-agrotourism is an activity that involves many aspects that must be well integrated. Spatial planning, provision of supporting facilities, services, reliable managers/executors, promotions, and accommodated involvement of local communities, require good and professional handling (Suriadikusumah, 2014). Agro-ecotourism, which is an intersection of the tourism and agricultural sectors, is a form of economic diversification that has an urgency as a step that can be taken during the economic transition period in Belitung Regency by utilizing green, agriculture-based areas. This was found in the Badau Village area, Belitung Regency.

Although former mining area has bad quality, this area can be used for horticulture activities (Swara et al., 2020). The local community in an effort to develop the potential of the agricultural sector in Badau Village, Belitung Regency began opening the Aik Nibung Agro-ecotourism ARD Garden in 2020 by starting from 2012 in stages. By seeing the potential that can be utilized from the former tin mining land due to tin mining activities by the local community. Affected farmers in post-mining areas need more resources to restore soil nutrients and quality, so it such a great effort for local community independently rebuild the bad quality land (Tinaprilla, 2019). The land was then purchased as private property and the land was managed in stages by trusted farmer ambassadors. The effort to diversify agro-ecotourism independently by the people of Badau District without intervention from other parties from the start is an interesting finding regarding the condition of the community's own perceptions of the use of ex-mining land in the post-mining era transition which is getting increasingly dismal to be used as a livelihood for the community. Positive perceptions in the form of participation can grow a society that is able to restore and protect its environment so that it can strengthen the responsibility and desire for sustainable governance (Nurmalia & Handono, 2019).

Doing it brings new interests and benefits into people's lives. Agro-ecotourism is divided into two types of models, the conservation model and the community model (Rahman, 2018). Agro-ecotourism is consisted of itemization of placement indicators for agro-ecotourism area, in the evaluation, the decentralization of space functions, space utilization, maintenance and connection, and the development of infrastructure facilities were not properly implemented, or the division of functions of outer space, space utilization, and infrastructure development, etc were not properly implemented it is estimated that there is no such case, or in the original concept, such a case is assumed (Tjahjono et al., 2018). While, according to officials' perceptions, the types of agro-ecotourism are; Former tin mining areas can develop water recreation and cultural tourism as a priority for natural attractions; Forms of tourist villages and artificial tourism as educational tourism (Meyana et al., 2015). A big positive change for the community, which originally depended on the mining sector and carried out various environmental destructions, on the contrary, has become more aware of the importance of preserving the environment for the survival of the community. Appropriate knowledge of the development of the agricultural sector, based on the evidence that the presence of farmers' groups in the agricultural sector can absorb the labor force with a contribution of 35.3% in Indonesia (Arvianti et al., 2019). Agro-ecotourism Aik Nibung ARD Garden Badau Village, apart from having a positive economic impact, can also provide a positive example for social life. This internal community empowerment is expected to be a form of revolutionary movement in society in creating business opportunities full of socio-economic values which of course need to be massively

promoted for the sake of the survival of the people of Badau District and even nationally. As follows, variables that strongly influence society's participation character are social impactful side and the profitability side (Haryanto et al., 2022).

This research has the urgency to identify various forms of business management of post-tin mining land by independent farmers, as well as describe community perceptions of post-tin mining land management in Badau Village, Badau District, Belitung Regency as Aik Nibung Agro-ecotourism ARD Garden. On the other hand, the urge of this research runs to describe the community's perception of post-tin mining land management such as Aik Nibung's "ARD Garden" agro-ecological tourist site in Badau village, Belitung Regency. Agriculture of the future rely more and more on millennial farmers familiar with digital technology strengthening production and sales activities, also known as agripreneurship (Utami et al., 2021). Studies of Jati et al. (2022) proving technology can empower farmers and more young people are enthusiastic about agriculture. Research on land use a former tin mine carried out by farmers as a mainstay of agro-ecotourism with the selection of the concept of agricultural commodities for horticultural products, flower gardens and freshwater fish cultivation, research has never been carried out in this regard. This urgency aligned to the aim of this research, such as, identifying different forms of post-tin mining land management enterprises such as Aik Nibung agro-ecotourism "ARD Garden" in Badau village, Belitung Regency.

RESEARCH METHOD

This research was carried out in Badau Village, Belitung Regency. Research data collection was carried out from January to May 2023. The location selection was carried out purposively (purposive sampling) with the consideration that the Aik Nibung ARD Garden agro-ecotourism location is post-tin mining land managed by reliable farmers. The number of samples determined in this research is 30 respondents because of the limited samples in the location. However, the 30 respondents as sample limit used is aligned to the minimum number of the respondents, among 30-500 respondents, in purposive sampling regarding to Cohen et al. (2007) who explained this minimum 30 respondents are eligible enough to represent the big sample in one population. The primary data in this study came from the results of questionnaires distributed to the people of Badau Village and the results of interviews with informants. Meanwhile, secondary data in this study were obtained from literature and internet studies related to the research title.

The stage of this research will be done in several steps, such as, data collecting and data analysis. Samples are taken from 30 respondents who is collected by observation, questionnaire, interview, and documentation. Observation is done by researcher attending the location in person to observe the

object. Data from questionnaire is done by testing the data using a Likert scale which in this study consisted of five choices, namely: Strongly Agree (SS = 5); Agree (S = 4); Simply Agree (CS = 3); Disagree (TS = 2); Strongly Disagree Agree (STS = 1).

Calculate the percentage of variables (Sekaran & Bougie, 2016)(Sekaran & Bougie, 2016)(Sekaran & Bougie, 2016). The use of Likert scales is used to measure the attitudes, opinions, or perceptions of an individual or group of individuals to an event or social phenomenon (Riduwan, 2009). Interviews are done by taking the information from two interviewees. Lastly, data is taken from documentation which is implemented by capturing pictures of the location both from personal and owner of the ARD Garden domain.

Furthermore, the collected data is reduced so it could be analyzed. The validity test used in this study uses the Pearson Correlation. The test criteria used are to compare the significance of the test results with an alpha level of 5%, if the significance is <0.05 , then the variable is valid and or if the significance is > 0.05 , then the variable is invalid. Reliability measurement uses the Cronbach Alpha formula (α). The instrument in this study is said to be reliable and fulfills the reliability requirements if it gives a Cronbach Alpha value of ≥ 0.60 (Nurgiyantoro, 2010). Meanwhile, in analyzing the data three stages were carried out, namely, data reduction, data presentation, and drawing conclusions. The research method includes items of specific time and place of research; describes the types and sources of data and information collection techniques, and research variables studied and explains data analysis methods. Managing the former tin mining land of Badau village is one of the efforts of leading farmers to understand the potential and opportunities of this place. Management of former tin mining lands by modifying the environmental conditions of former tin mines into agro-ecotourism sites, agricultural activities with horticultural and aquaculture crops fish. The management of former tin mining lands has a positive impact on the environment surrounding the former tin mining lands and provides incentives for farmers and communities surrounding the area. Site-surrounding community perceptions of the management of former tin mine lands by measuring community perceptions of pre-management activities of former tin mine lands, management of former tin mining lands and successful management of former tin mining lands. This research framework is displayed as follow:

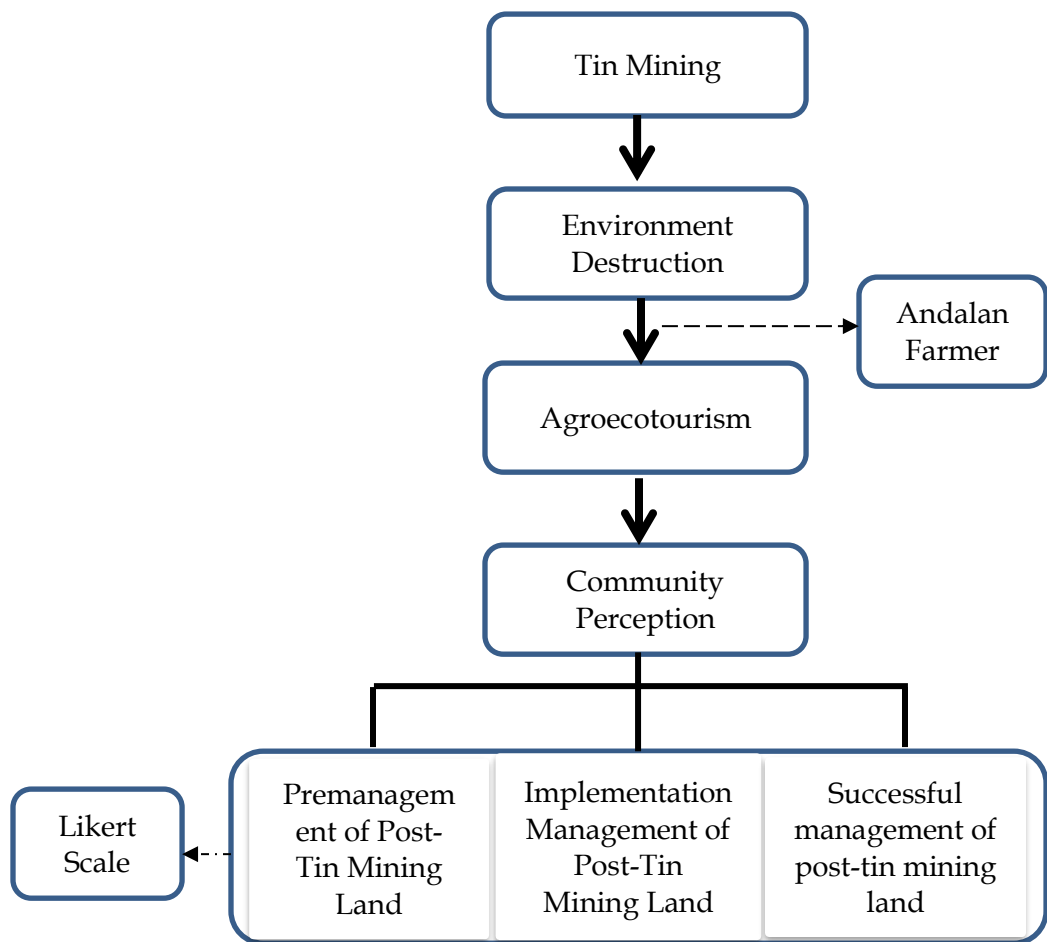


Figure 1.

Theoretical Framework For Community Awareness On The Management Of Former Tin Mining Lands As Agro-Ecotourism In Badau Village "ARD Garden"
By Aik Nibung

RESULT AND DISCUSSION

General Description

Badau Village is one of the villages located in Belitung Regency. This village is the capital of the Badau District which is known as one of the areas that has historical value as the location of the Badau kingdom on Belitung Island in the past. Like other areas in Belitung Regency, Badau Village was also once a tin mining location which was later neglected because mining productivity had stopped to be precise in Kelekak Datuk Hamlet, Badau Village. This ex-mining land was then transformed into a forest area for a certain period of time.

Furthermore, this ex-mining area was then developed into an agro-ecotourism location by one reliable farmer actor who is part of the local community and a pioneer of the mainstay farmer movement in Badau District. The goal is to achieve food self-sufficiency for households, diversify agriculture using surrounding resources, preserve future food crops, manage village nurseries and, of course, improve the economy of the community (Yuwono, 2020).

The development of the former tin mining area was carried out independently by reliable farmers by involving the surrounding community to participate in developing opportunities of economic value in the agro-ecotourism area of Badau Village. Located \pm 0.5 km from the residential area, restoration of the post-mining land area in Badau Village was carried out for the first time in 2016 as a form of great potential for agro-ecotourism diversification which farmers believe is the mainstay of Badau District. Thus, the people of Badau do not only depend on the existing tourism sector, such as the Batu Mentas nature tourism and the Badau Museum, which are limited in absorbing labor and providing economic value benefits. More than that, they can utilize ex-mining land which is still very large in the forest area of Badau Village. As mentioned by Sumarmi et al. (2018) community activities are expected to be supported by processing to creative industries as well as communities relying on agriculture potential for agro-ecotourism.

In general, the respondents are between the ages of 31 and 40, because at the age of 31 to 40 is the productive labor age, this age group generally has more work experience and the physical ability is still healthy. While, men dominates the gender based respondents, ie 20 people (66.7%). In addition, the survey subjects are female, accounting for 10 people (33.3%). Out of 30 respondents, 30 respondents (66.7%) are dominated by respondents with high school education, 8 respondents with lower secondary education (26.7%) and 2 respondents had a university degree (6.7%).

The main attractions of this agro-ecotourism are Celocia plants, horticultural plants, and freshwater aquaculture. Celocia according to Septariani et al. (2019) is a refugia plant, which is the cultivation of certain plant species that can provide protection, food resources or other resources for natural enemies and parasites, shelter here means protection from weeds growing around cultivated plants, as well as having potential for example microhabitat for natural enemies such as predators and parasites of course as protection against enemies such as pests and weeds. Sunflower plants and Celocia flowers or also known as cock's comb flowers are actually the main attraction for tourists visiting this tourist attraction, despite the fact that these plants are refugia for horticultural plants found in the agro-ecotourism area of Badau Village, such as chili plants and various vegetables. These horticultural crops certainly have economic value for the local community to be sold or consumed to fulfill their needs. Further economical impact is also distinguished by the growth of small

business supporting the ARD Garden. There are 10 small business which run by local people consisted of culinary and souvenir shops. Apart from that, there is also freshwater fish farming which utilizes the pits of former tin mines which have experienced changes in water quality for the better as fish habitat (Putri et al., 2021). All of these activities were carried out in an area of ± 2 Ha of ex-mining land out of a total area of ± 4 Ha. The development of this agro-ecotourism area is still 50% of the total land in the 2016-2023 period.

Businesses Managed By Reliable Farmers In Post-Mining Land In Badau Village, Badau District, Belitung Regency

Based on the results of interviews with the initiator and owner of the Aik Nibung agro-ecotourism business: ARD Garden in Badau Village, which is a mainstay farmer ambassador in Belitung Regency. Starting from his visit to Belitung to visit relatives who live in Badau Village in 2012, he saw the location of the land which was a former tin mining area that was no longer productive. Seeing the potential in the land, he took the initiative to buy the former tin mining land from the original owner. This concept of tourism site development is relate to divided territory into five areas zones: Welcome Area Zone, Nature Tourism Zone, Services and Tourism Zone, Cultural, Agrotourism Zone, Aquatic Tourism Zone (Muhammad & Darmawan, 2019).

In 2014 the management process began by starting to plant vegetables initially. Choosing vegetable plants as a cultivation business is not without reason because vegetable plants are short-lived and easy to sell in the market. Gradually these agricultural activities then developed and began to be known by the community around the sub-district and the local government. Through extension assistance and the farmer's desire to develop rice cultivation by the end of 2017 covering an area of ± 1 Ha. At that time, the activities of farmers in ex-tin mining areas were already being looked at because of their success in carrying out agricultural business activities in ex-tin mining areas which are known to be poor in nutrients. Unexpectedly, the planted rice plants were able to adapt and grow well in this nutrient-poor land. However, rice plantation only tried planting once in that year due to limited manpower where farmers only rely on family power in managing their land (Dariah et al., 2010). The high input cost for fertilization is carried out considering the condition of the land which is a former tin mining land which is nutrient poor. In addition, bird pest attacks during rice planting make farmers calculate from an economic point of view these food crop products. Thus, the farmer copes up with planting season which could affect rice planting by opened another chance in horticultural crops which have lower risk related to the planting season.



Figure 2.
Rice Cultivation

Apart from trying to plant post-mining land with rice plants, farmers are then consistent in planting horticultural crops because they are considered more economical and profitable. Antara (2004) analyzed the importance benefit mentioned as redistribution of main production asset like the agriculture land, which can be the form of transfer of ownership or in the form of institutional arrangement which give opportunity to land poor farmer. With a relatively short growing season, more than one production per planting season and fluctuating prices make farmers more suitable for growing vegetables. Horticultural crops are the main business for the farmer because they are considered sufficient to support the food security of Badau Village. This is because plantation commodity farmers are most dominant in Badau Village, while for horticultural crops, especially chilies and celery, there are not so many and not on a large scale. In line with Asmarhansyah's research (2017), that horticultural crops have economic potential if cultivated on post-tin mining land.

The types of cayenne pepper planted are hybrid chili varieties of Dewata, Maruti and those currently planted with the Lantern variety. The number of cultivated cayenne pepper plants is approximately 3,000 - 4,000 stems. At the beginning of this management business, around 2017, up to 9,000 cayenne pepper trees were cultivated. As for curly red chilies, the variety used is a local superior variety, namely the Akar variety, with a number of plants of approximately 3,500 - 4,000 plants. All seeds for these horticultural crops are obtained by buying at farm shops around Tanjungpandan City. The fertilizer used for horticultural crops is NPK with the Mutiara brand which is applied by dissolving in water and watering the chili plants once every 10 days until the plants bear fruit. In addition to chemical fertilizers, manure is also added at the

beginning of the plant and is only given once in one planting period. This aim Pearl 13 NPK fertilizer Handling significantly increased the number of fruits but changed the number of leaves, number of primary branches, number of secondary branches, tree height and total dry weight tended to decrease (Widyastuti & Hendarto, 2018).



Figure 3.
Curly Red Chilies (right), Celery (left)

This type of horticultural crops has been maintained by farmers until now. Especially chili and celery plants. Because these 2 commodities have high profit value. For chili the lowest price received by farmers is IDR 25,000. The types planted were hybrid chilies, namely the Dewata, Maruti and Lantern varieties. With the number of chili trees planted approximately 3,000-4000 stems. The seeds were obtained from a farm shop that sells agricultural materials in the city of Tanjung Pandan. For celery, the lowest price received by farmers is IDR 40,000/Kg. Currently the price of celery reaches IDR 150,000/Kg.

At the beginning of 2020 when the Covid-19 pandemic hit the whole world, Badau Village was no exception, the location of his agricultural land was made into Kampung Tegep Mandiri as a village that was responsive and anticipated a food crisis in the midst of the pandemic at that time. The area used for horticultural crops is approximately 1 Ha. Types of vegetables cultivated include bird's eye chilies, curly chilies, eggplants, tomatoes, celery, spinach, kale, mustard greens and others in rotation.

In 2020 the Aik Nibung agro-ecotourism ARD Garden will begin to open. Carrying out the concept of a flower garden to attract tourists to visit, it is planted with celosia flowers, sunflowers, button flowers and the like with various colors. Seeds of celosia flowers, sunflowers and others were purchased through market places. The price per pack of these ornamental plant seeds ranges from IDR5,000 to IDR10,000, - with the number of seeds in 1 pack, namely 10-20 items. Before

being planted in the field, the seeds of these various types of flowers are first sown in the nursery until they are \pm 1.5 months old.



Figure 4.
The Establishment of ARD Garden

Furthermore, after the age of 1.5 months transferred to land that is ready to be planted. For the land to be planted with flowers, no fertilization is carried out because it is former chili land which is considered by farmers to still contain fertilizer nutrients from previous plantings so that farmers can cut the cost of fertilizing these ornamental plants. This flower garden is arranged by color and a planting pattern is made with the shape of a heart or love, stars and other patterns that make the location aesthetic and beautiful when photographed with a flower garden area of 0.5 Ha.



Figure 5.
Texas Skeleton (left), Button Flowers (middle), Sunflowers (right)

In addition to the colorful flower garden spots, in several places, gazebos or huts have been built for shelter and rest which are expected to increase the desire for tourists to visit, as shown in the picture below, and interesting spots for selfies are made;



Figure 6.
Huts and Selfie Spots

In addition to the cultivation of flower gardens and horticultural plants and the interesting spots described above, one of the things that supports the activities at the Aik Nibung ARD Garden agro-ecotourism location is the utilization of the pits of former tin mines which were abandoned by tin mining activities. These pits were originally pits with irregular shapes left over from tailings which were then trimmed into a 4-sided shape. There are 3 pits with an area of 1 pit with a size of 20 x 25 m² and 2 pits with a size of 10 x 15 m². The water source comes from a spring not far from the location and is quality safe as a location for freshwater fish farming.

The pit that has been transformed into a pond is used for tilapia cultivation. Tilapia is chosen by farmers because it is considered to have higher economic value than catfish or other types of fish. By targeting markets around the city of Tanjung Pandan and its surroundings, tilapia has quite high opportunities and profits in Belitung Regency. At the beginning of the pond's opening, the mainstay farmers also received assistance of 3,000 tilapia seeds which were intended as the forerunners of continuous tilapia cultivation.

The background of the mainstay of farmers managing post-tin mining land in Badau Village to become the agro-ecotourism sector was strengthened by interviewee A in the interview on May 15th, 2023, namely:

"In the past, there were several locations in Badau Village which were used as tin mining locations, because they were no longer productive, these locations were ignored so that they became forests. One of the farmers then took the initiative to change the former tin mining location into an agro-ecotourism location."

This was emphasized by interviewee B in an interview on the May 16th, 2023, namely:

"The development of the tourism sector in Badau Village was motivated by a farmer who had the idea to turn unproductive former tin mining land into productive land."



Figure 7.
Fish Pond

The farmer's efforts in managing the ex-tin mining land turned out to be successful. Until 2020, the agro-ecotourism sector will be developed in the form of cultivating celocia flowers, cultivating horticultural crops, and cultivating freshwater fish. For this success, the farmer was named a Mainstay Farmer Ambassador (DPA) in the field of agro-ecotourism which was ratified in the Decree of the Minister of Agriculture of the Republic of Indonesia Number: 434/KPTS/SM.020/M/8/2021, concerning Millennial Farmer Ambassadors and Mainstay Farmer Ambassadors.

In addition to developing the flower garden tourism sector, the community also participates in mobilizing UMKM such as selling food, drinks and souvenirs. Local people who live in Badau Village are allowed to sell at the Aik Nibung ARD Garden agro-ecotourism location free of charge. It is only obligatory for people who want to participate in selling to help maintain the cleanliness of the location when selling. The people who participate in selling usually sell food products such as fried sausages, egg rolls, various fried foods, instant noodles, various cold drinks and types of coffee drinks, typical Belitung island souvenirs such as key chains, typical Belitung foods such as crackers and other snacks. Mainstay farmers get additional income from selling entrance tickets for tourist visits and selling horticultural crops and tilapia. The price of admission to the agro-ecotourism location for adults is IDR 10,000 and children are free. Visits on certain days on weekends or holidays reach 1,000 people and income can reach \pm 10 million on that particular day. This tourist attraction is open every day, but the peak is crowded with visitors on holidays such as Saturdays, Sundays and holidays. Another positive impact is that youth groups also get income from parking, parking prices for motorbikes are IDR 1,000 and cars are IDR 5,000.

The development of agro-ecotourism tourism objects by leading farmers in Badau Village provides additional income for farmers and the community so as to create economic independence for the community. This is in line with the statement that agriculture and tourism are strategic sectors that are able to sustain life as well as driving the national economy that are rooted and become a culture in Indonesian society (Kamino, 2015). Gunawan (2016) also explained that economic benefits are an important aspect in the development of agro-ecotourism, in addition to aspects of natural, social and cultural sustainability. The economic aspect can be seen from the added value created from the management of the agro-ecotourism. To be able to increase the added value of the agricultural sector, its management must be synergized with other sectors. In addition, it must also be integrated with the carrying capacity of the region such as biodiversity, demographics and geographical location, so that it becomes a strength of internal factors and the regional economy.

In the future, the mainstay of farmers' plans is to change the concept of agro-ecotourism, which is now a flower garden tour, to become a vegetable picking tour and educational tourism. So not only flower garden tours, but visitors will be able to buy vegetables by picking them directly and buying them. This is not without reason, because the Aik Nibung agro-ecotourism ARD Garden has been designated as a Self-Help Agriculture and Rural Training Center (P4S) so that it is possible for the community or school students who wish to study at that location. With the concept of picking vegetables, it is hoped that tourists who come will not only visit but buy agricultural products at agro-ecotourism locations by picking themselves. Of course this method will provide additional income and profits for managing farmers

Community Perception Of Pre-Management Of Post-Tin Mining Land, Implementation Of Post-Tin Mining Land Management And Successful Management Of Post-Tin Mining Land By Farmers As Agro-Ecotourism Location

It is the management of former tin mines by Andalan farmers to become agro-ecotourism tourism objects. The community knows and supports the activities carried out by Aik Nibung ARD Garden ecotourism in Badau Village. This perception is stated by the community because the agro-ecotourism tourism objects developed by reliable farmers provide direct benefits to the people in Badau Village. Benefits obtained such as reliable farmers get income from selling entrance tickets, youth get income from parking and the community can establish UMKM in agro-ecotourism attractions. As the research of Djuwendah et al. (2023) had proven that agro-ecotourism is a long-term tourism development strategy in rural areas, allowing visitors to experience the current state of agriculture, agricultural work, local products, traditional dishes, and daily life of rural people's day and cultural and traditional elements.

The community's perception of the pre-management of post-tin mining land by farmers who are the mainstay of agro-tourism is knowing. This can be seen from the results of the descriptive analysis of 58.3% of respondents who said they knew. The community gives the perception of knowing that reliable farmers have sufficient knowledge to develop agro-ecotourism objects. The community also agrees that the development of agro-ecotourism objects can have a good impact on the economy.

The community's perception of the implementation of post-tin mining land management by farmers who are the mainstay of agro-ecotourism is knowing this, as seen from the results of the descriptive analysis of 63.3% of respondents who said they knew. The community knows that the development of agro-ecotourism is developed by reliable farmers such as fishing for tilapia, making celosia and sunflower flower gardens, making vegetable gardens such as curly chilies, cayenne pepper, tomatoes, kale, spinach, celery, mustard greens and making huts or huts for shelter, windmills and other selfie spots.

The community's perception of the success of post-tin mining land management by farmers as a mainstay of agro-ecotourism is in agreement. This can be seen from the results of the descriptive analysis of 53.3% of respondents who agreed as the scale passed agreement category implied by Riduwan (2009) The community believes that managing a tin mine to become an agro-ecotourism object will make the land more productive, become a tourist spot as well as education for local and foreign communities, become a sustainable tourist destination for Badau Village, provide positive conditions for the surrounding natural environment and can provide benefits as an economic alternative for the community.

The calculation of the index score per indicator for post-tin mining land management as agro-ecotourism is carried out through statement indicators on the questionnaire. Which can then be seen in the table below.

Table 1. Coefficient Of Score The Value Of The Community's General Perception Of Land Management After Tin Mining Such As Agricultural Tourism

No.	Indicator	Score value	Percentage	Explanation
1	Community Perception of post mining land	941	78.20	Agree
2	Pre Management by mainstay farmers	472	78.70	Agree
3	Community Perceptions of the implementation post-mining land	623	83.17	Strongly agree

No.	Indicator	Score value	Percentage	Explanation
	management by mainstay farmers			
	Total	2,042	80.02	Strongly agree

Based on Table 1. it can be seen that public perception of Post-mining tin management by farmers is the mainstay of agro-ecotourism totally agree with the total score is 2,042. The total score obtained from the total on each index is an index of public perception management with a score of 941, an indicator of public perception perform management with a score of 472 and a community awareness index on successful management with a score of 623. The scale of public perception of the management of tin mines by farmers who are the mainstay of agro-ecotourism is 80.02%, which means that the community strongly agrees with the program. While, the total proportion of post-tin mining indicators is 78.42%, so it can be concluded that the public perception of the post-tin-mining indicators is considered to be consensus. Based on observations in the field that the community has a good response to the management of tin mines by farmers who are the mainstay of agro-ecotourism. This number comes out from the total percentage of indicators on the ongoing rehabilitation program is 78.7%. It can be concluded that public awareness of the performance indicators of post-tin mining in agro-ecotourism is considered appropriate. According to Sugiyono (2004) value 60-79% means agree, so we can conclude that public perception of post-mining tin indices is considered consistent .

The management of former tin mines by mainstay farmers to become objects of agro-ecotourism, the community knows and supports the activities carried out by Aik Nibung ARD Garden agro-ecotourism in Badau Village. This perception was put forward by the community because the agro-ecotourism attractions developed by reliable farmers provide direct benefits to the people in Badau Village. Benefits such as reliable farmers get income from selling entrance tickets, youth get additional income from parking fees and the community can also establish UMKM in agro-ecotourism locations.

The magnitude of the benefits of agro-ecotourism for the people of Badau village is in line with the research results of Fahrezza & Asyiwati (2016), explaining that agro-ecotourism areas have a large enough benefit value to increase people's income, so that agro-ecotourism areas really need to be developed and preserved. The research results of Pambudi et al. (2018) explain that the community supports planning for the development of their area as an agro-ecotourism area. Based on the perception of the people who agree in this effort because it can have an impact on sustainable agricultural development efforts from an ecological, social, economic and management perspective.

According to research by Fitriana et al. (2017) the development of agro-ecotourism areas will provide benefits to the community in terms of development, ecology, social, economy and culture.

CONCLUSION AND SUGGESTION

Conclusion

Based on the results and discussion of the research, the following conclusions are obtained:

1. Businesses managed by farmers are pillars of development in the agro-ecotourism sector, especially the horticultural sector, which consists of vegetable raw materials such as bird's eye pepper, curly pepper, celery and other vegetables, and especially the fishery sector. In addition to these two departments, he also has a flower garden consisting of different types of flowers such as Celocia sp, sunflowers and button flowers.
2. Community perceptions of farmers' pre-management of post-mining land leading to agro-ecotourism are noted with an index coefficient value of 78.2%, which is in line with public perceptions of post-mining practices. It means that you are in agreement. Land management agreements The most important requirement for farmers to transition to agro-ecotourism is that the municipality has a value index factor of 78.7 at the agreed level. Furthermore, local community perceptions of agricultural success after tin mining by farmers, a mainstay of agro-ecotourism, is consistent with an exponential coefficient value of 83.17, a strong agreement. And the result of averaging the exponential coefficients is 80.02% at the perfectly matched level.

Suggestion

Based on the results and discussion of the research, the researcher provides the following suggestions :

1. Leading farmers to develop written roadmaps for further development so that management of post-tin mining areas can be more targeted, and a roadmap for the development of agro-ecotourism hubs. need to be established.
2. The Government should focus on the achievements of reliable farmers in the development of the agro-ecotourism area in Badau Village, Belitung District, including the road infrastructure to the agro-ecotourism hubs. Building roads and infrastructure to support agro-ecotourism is a strategic investment that can yield several significant benefits such as accessing markets more easily, reducing transportation costs, and increasing the overall competitiveness of agricultural products.

3. Key farmers, communities and local authorities should work together to develop Aik Nibung 'ARD Garden' agro-ecotourism area in Badau Village. One is to host local agency events such as farmer's market activities that can be held at agro-ecotourism hubs and village government activities such as fishing competitions and bargain market bazaars.

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