

# THE POTENTIAL FOR DEVELOPING EDUTOURISM ON POST GOLD MINE LAND IN PALALUAR NAGARI BASED ON SUSTAINABLE AGRICULTURE

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## Abstract

The change in behavior from miners back to farmers requires the people of Palaluar Nagari to reclaim their land, which is generally a former gold mine. However, natural land reclamation takes quite a long time and costs a lot of money so it needs support from various parties, especially the government. Government of Palaluar Nagari, in order to improve land to achieve food security, launched a program based on sustainable agriculture. Sustainable tourism development by utilizing local resources does not only focus on environmental aspects but also economic and social aspects of the community. The implementation of land reclamation is carried out by developing educational tourism which involves tourists in reclaiming land, which includes two edutourism packages, namely the Sitampan Edutourism Package and the Sikamek Edutourism Package which are based on an integrated farming system and are a form of sustainable tourism. The research aims to examine the potential for developing sustainable agriculture-based education tourism in Palaluar Nagari using descriptive methods. The development of educational tourism on reclaimed land from a former gold mine in Nagari Palaluar based on sustainable agriculture has development potential because it provides positive impacts from social, economic and environmental aspects.

**Keywords :** *Agriculture, Edutourism, Mine, Reclamation, Sustainable.*

## 1. INTRODUCTION

Sijunjung Regency has 8 sub-districts including Kamang Baru District, Tanjung Gadang District, Sijunjung District, Lubuk Tarok District, IV Nagari District, Kupitan District, Koto VII District and Sumpur Kudus District. Based on information from Field Agricultural Extension Officers, there are sub-districts that are affected by 4 gold mining activities on agricultural land. The sub-districts are District IV Nagari, District Koto VII and District Kupitan. Nagari Palaluar is one of the nagari in Koto VII District. Agriculture's contribution is 27.7% of the total GRDP of Sijunjung Regency according to Business Fields, which is in first place, followed by mining (BPS, 2022). However, in reality, many agricultural lands have become gold mining areas. One of the negative impacts of the mining industry on village communities is the progress and regress aspect. Social aspects include the marginalization of work and the fading of social capital. Meanwhile in the economy, only a few workers are hired as heavy workers and the rest are taken from outside the region. Meanwhile, the environmental impact can be felt by the surrounding community, namely through land degradation and environmental damage. With post-mining events, the land after it has been excavated is not returned to its original state, which will damage the balance of the ecosystem (Sudarti & Hindiyati, 2021).

After mining activities usually leave the land in infertile conditions. There is damage to the physical properties of the soil, such as the formation of troughs filled with sand, which has an impact on the environment. This was followed by a change in the behavior of the community from

miners who had become farmers again, requiring them to repair unproductive ex-gold mining land into productive land again. Land reclamation activities are one way that communities can use to repair land that has been damaged by mining activities with the aim of restoring the damaged land so that it can be used productively. Land reclamation after gold mining takes a long time and costs a lot of money. This is in line with research (Latifa et al., 2023) where financial analysis shows that corn farming with the implementation of the post-gold mining reclamation technology package has not shown an increase in income for the community in the initial period followed by a feasibility analysis based on criteria showing that corn farming is not yet feasible to continue. It is best to continue farming by implementing a reclamation technology package for the benefits that will be obtained in the long term. Introduced technology has a very large additional cost impact, so farmer groups must collaborate with other farmer groups and coordinate with nagari institutions.

The Nagari Palaluar government, in the context of regional development, has launched a program for reclamation of ex-mining land and food security and livestock development. However, due to time and cost considerations for reclamation, the nagari government is collaborating with universities to develop sustainable agriculture-based education tourism on reclaimed land from former gold mines. Areas of former mining land that are reclaimed and converted into educational tourism areas are an alternative that is expected to bring benefits to community life in a sustainable manner. The concept of sustainability as a resource development and management philosophy permeates all levels of tourism-related policy and practice, from local to global levels. Through sustainable tourism, management of the natural and physical environment must coexist with the economy, socio-culture, safety and security of local residents and the nation. Sustainability issues, which were initially limited to the natural environment, are now expanding to include social, economic and cultural aspects. Currently, governments, international institutions, business associations, academic institutions and non-governmental organizations recognize that without consideration of sustainability, no development efforts will benefit all stakeholders. The concept of sustainable tourism using sustainable tourism development as an economic stimulator to achieve growth while maintaining the natural environment is receiving greater attention and emerging simultaneously from industry, government and academics (Sri Widari, 2020).

Sustainable agriculture-based edutourism is a development approach that involves the community and can influence economic, social and environmental aspects. Like the community-based ecotourism concept, the development approach definitely involves the community, on the grounds that the tourism sector can provide economic benefits for the community, tourism can create various social and cultural benefits, and tourism can help achieve environmental conservation targets. By empowering local communities, good participation will be achieved between local communities and the tourism industry in the area, and by involving the community in decision making it is hoped that better forms of cooperation will be created between local communities and the tourism industry (Yusuf et al., 2023). The aim of this research is to examine the potential for developing edutourism on reclaimed land from former gold mining and its impact on the community in Nagari Palaluar. The benefits of developing edutourism will provide opportunities to create new economic sources based on edutourism by utilizing marginal land in order to improve it into productive land on the side. Another benefit expected from the development of edutourism is to foster local communities or residents to take the initiative to find innovations according to the potential of existing natural resources (SDA) and repair the environment damaged by gold mining. So that these activities can provide added value in the sustainable economic development of the community in Nagari Palaluar.

## **2. IMPLEMENTATION METHOD**

This research is a case study carried out in Nagari Palaluar, Koto VII District, Sijunjung Regency from June to October 2023. Nagari Palaluar is one of the nagari that carries out reclamation of former gold mining land and is an effort to develop edutourism. The research method is descriptive with a qualitative approach, namely research that aims to describe certain

facts, populations or fields factually and systematically. The descriptive method is a method for researching the status of a group of people, an object, a system of conditions, a system of thought or a class of events in the present. The data and information used in this research are primary data and secondary data. Primary data obtained through observation and in-depth interviews (in-depth interviews) with the government and community of Nagari Palaluar. For secondary data, literature studies use nagari documents, journals, official websites and other related references.

### 3. RESULTS AND DISCUSSION

#### 3.1 Potential for Development of Edutourism based on Sustainable Agriculture in Nagari Palaluar

Nagari Palaluar is one of the Nagari in the Koto VII District Government area of Sijunjung Regency. Nagari Palaluar has an area of 2,500 hectares, and geographically it is located at 00.629260 South Latitude and 100.853380 East Longitude with regional boundaries: The north side is bordered by Nagari Guguk, the South side is bordered by Nagari Limo Koto, the East side is bordered by Nagari Tanjung, and the West side is bordered by Nagari Bukit Bual. Administratively, Kenagarian Palaluar has 5 jorongs, namely Jorong Koto, Jorong Sumpadang, Jorong Bungo, Jorong Ranah and Jorong Kampung Baru.

Since 2008, there have been large-scale gold mining activities by the people of Nagari Palaluar without permits (PETI) along the Batang Ombilin river and encroaching on productive land including rice fields and fields. In 2014, Minister of Energy and Mineral Resources Regulation No. 07 of 2014 concerning the Implementation of Reclamation and Post-mining which states that every miner is obliged to reclamation of ex-mining stockpiles. Stockpiling activities require large costs, ultimately mining activities stop. Post-mining conditions cause economic and social problems for society and the environment because: (1) Local gold miners never prosper because they only work on their own land, (2) Increased unemployment because productive land is damaged due to mining, (3) There are many poor widows as a result of a contract marriage with a mining worker from Kalimantan. (4) Increasing poverty rates and children suffering from stunting due to poor family nutrition, (5) Environmental damage due to mining that does not pay attention to ecological aspects, resulting in land degradation. Currently there are around 100 hectares of abandoned mining land, rocky and barren, with an irregular landscape forming hills and holes filled with water.

The Nagari Government in developing edutourism refers to the Sijunjung Regency Government which is in line with the Sijunjung Regency Regional Medium Term Plan (RPJMD), namely the development of tourism to encourage improvements in the economy, education, infrastructure and various other aspects that have the potential to increase the HDI (human development index) figure significantly. . The ex-gold mining land reclamation tour package is an educational tourism facility that is synergized with the 3 Nagari Programs, by highlighting the permaculture-based concept in sustainable edutourism based on integrated agriculture, corn-goat farming and conservation.

The ex-gold mine land tourism package developed on the reclaimed land of the former gold mine in Nagari Palaluar includes:

##### 1. Sitampan Edutourism Package

Sitampan is a Nagari Palaluar government program that focuses on the Mining Land Reclamation System and Food Security. This edutourism package is an alternative for improving marginal land into productive land in order to achieve food security in Nagari Palaluar through tourists. There are 4 Sitampan Edutourism Packages including:

- Land Remediation Package: This is an educational tourism package for using organic materials on former gold mining land to increase soil nutrients in order to improve the land.
- Plant, Livestock and Fish Integration Package: This is an educational tourism package for an integrated agricultural system between corn, goats and fish with the use of ex-mining troughs as fish ponds.

- Conservation Forest Package: This is an educational tourism package where tourists can plant annual plants on reclaimed land as a form of reforestation.
  - Fishing Package: This is a fishing educational tourism package that utilizes local natural resources (SDA), namely the Batang Ombilin River which flows around the location of reclaimed land from a former gold mine.
2. Sikamek Edutourism Package
- Sikamek is a Nagari Palaluar government program that focuses on the Synergy of Implementing Goats to Improve the Family Economy. Apart from farming, the people of Nagari Palaluar also raise goats, cows and poultry. In the development of sustainable agriculture-based education, goat farming has a function in an integrated agricultural system. In the Sikamek edutourism package there are 4 edutourism packages for tourists including:
- Goat Livestock Development Package: This is an educational tour package that provides information on goat livestock development for tourists.
  - Goat Milk Processing Package: This is an educational tour package in goat milk processing and this activity is carried out by tourists.
  - Livestock Waste Processing Package: This is an educational tourism package for processing organic fertilizer using organic materials and livestock manure.
  - Plant Waste Processing Package: This is an educational tourism package for processing animal feed by utilizing plant waste.

The edutourism development area on reclaimed land from a former gold mine in Nagari Palaluar is also equipped with facilities that tourists can use, including homestays using houses and community meeting halls, food centers that empower MSMEs in order to introduce local culinary delights and the development of cultural arts that tell the history of gold mining in Nagari. Palaluar through the arts of dance and silat. As well as community empowerment through Tourism Awareness Groups (Pokdarwis), BUMNag and Cooperatives as tour guides.



Figure 1. Map of Post-Gold Mining Land Edutourism Development Locations in Nagari Palaluar

### 3.2 Economic Aspect

In Indonesia, one example of a former mine that has been used as a tourist area is the former Kandi-Tanah Hitam coal mine in Sawahlunto, West Sumatra (Meyana et al., 2015). Kandi Animal Park is an icon of tourism in the former Kandi-Tanah Hitam mining area. Apart from that, various types of tourism are also used at this former mine, including as a horse racing arena, breeding farm, water recreation at Lake Tandikat which is used as a water tourism and fishing area, Lake Kandi

pier, road race arena, and motocross circuit. Examples like this can be used as a reference and alternative to improve the management of former tin mining areas on Bangka Island which were originally damaged and unproductive to become areas that are efficient and can improve community welfare.

Based on an economic perspective, edutourism provides several positive impacts, namely: creating business opportunities, the availability of new job opportunities, the development of new businesses, increasing income while accelerating the distribution of community income, increasing local economic growth, as a result of the multiplier effect that occurs from relatively high tourist spending. quite large, increasing efforts to preserve the environment, increasing government tax revenues and regional levies, increasing national income or Gross Domestic Product (GDP), encouraging increased investment from the tourism industry sector and other economic sectors, increasing direct and indirect profits from stakeholders and increasing promotion of sustainable use of natural resources.

Here are some economic aspects to consider:

- **Job creation:** the development of edutourism can create new jobs in the tourism and agricultural sectors. This includes jobs in the tourism sector such as tour guides, cleaners, and administrative staff, as well as jobs in the agricultural sector such as farmers, maintenance personnel, and agricultural product handlers.
- **Development of Micro and Small Enterprises (MSMEs):** The presence of visitors and new economic activities in this area can encourage the growth of MSMEs in the surrounding area. For example, stalls, restaurants, souvenir shops and other businesses can develop to meet the needs of visitors.
- **Increased Local Income :** As the number of tourists increases, the income of local communities may increase due to increased demand for local goods and services, such as food, lodging, and transportation.
- **Taxes and Revenue from Tourists :** Local governments can generate revenue from taxes and levies imposed on tourism-related businesses, including accommodation, restaurants, and souvenir shops.
- **Infrastructure Development:** In order to support tourism and agricultural growth, investment in infrastructure such as roads, public transportation and other supporting facilities may be required. This can also create additional jobs in the construction sector.
- **Increased Property Values :** Potential tourism growth can increase the value of surrounding properties, allowing property owners to profit from rising property prices.
- **Diversification of Income :** By developing various economic activities in the area, local communities can have more diverse sources of income, reducing dependence on one sector or livelihood.
- **Increased Foreign and Local Investment:** The successful development of edutourism can attract investors, both from within the country and abroad, to invest in developing infrastructure, accommodation and tourism-related businesses.

By paying attention to these economic aspects, developing edutourism on reclaimed land from former gold mines with an integrated agricultural system can provide significant economic benefits for local communities and the surrounding area. It could also be a model for sustainable development in other former gold mining areas. Furthermore, potential consumers are not only general tourists but also an educational opportunity for students and university students who will carry out internships.

### 3.3 Social Aspect

The social aspect of developing edutourism in society is very closely related to the economic aspect. Where the standard of living of the community shows the welfare of the community and its social life. For this reason, developing edutourism is by empowering the community in its development so that it can increase competence (knowledge, skills and attitudes) in sustainable agriculture, natural tourism and arts and culture. The community can be empowered as guides where the guide's job is to accompany visitors until the visit is complete. The main thing that a



guide must have is knowledge and experience about the environment and nature visited by the tourist. Therefore, local people are very suitable for the job. Apart from gaining economic benefits from ecotourism, local communities can have a dual role, namely as guides and as managers who will preserve nature and tourist attractions.

The influence of tourism on changes in social processes in society is very visible when people experience an increase in income and the creation of new jobs to support people's standard of living. However, if it is only carried out by a group of people, social influence and inequality will occur. There needs to be a dynamic social process in community life, such as continuous social interaction and cooperation between tourism actors. In essence, social processes occur dynamically in community life, where processes of relationships between humans occur in the form of continuous social interaction. The process and implementation of ecotourism activities leads to income in the form of foreign exchange for the country and also the opening of new opportunities and jobs for the community (Maak et al., 2022).

Mining tourism becomes increasingly developed when equipped with the charm of multi-ethnic culture, presenting various cultural attractions and arts from several ethnicities that inhabit this city. The most important thing in the success of tourism development is when the community becomes an inseparable part of the development agenda. The community is involved in every development plan and participates directly in the development of the Mining Tourism City and directly enjoys the results of the development. This is in accordance with Edi Suharto's statement that economic development must be accompanied by social development as a development approach which aims to improve the quality of life and welfare of the people living in it (Syafri & Fernandes, 2018).

### **3.4 Environmental Aspect**

The development of ex-gold mine educational tourism based on sustainable agriculture involves many environmental aspects that need to be considered to ensure that this activity is sustainable and has a positive impact on the surrounding environment. Some important environmental aspects to consider in this development include:

- **Land Rehabilitation and Restoration** : Ensure that former gold mines are properly rehabilitated to restore original ecosystem functions. This can involve replanting native vegetation, controlling erosion, and improving soil structure.
- **Water Conservation and Groundwater Management**: Carry out efficient and sustainable water management to ensure the availability of sufficient water for agriculture and other needs. Erosion control is also important to prevent water pollution.
- **Waste and Soil Pollution Management**: Identify and manage waste generated during mining and agricultural processes. This includes chemical and physical waste such as mine tailings, as well as agricultural waste such as fertilizers and pesticides.
- **Biodiversity Conservation**: Ensuring that edutourism development does not damage or disturb natural ecosystems and biodiversity. This could include maintaining special areas for native flora and fauna.
- **Organic Farming and Sustainable Practices**: Implement organic farming practices to minimize the use of pesticides and chemical fertilizers that can pollute soil and water. Providing training and education to local farmers on sustainable farming techniques is also important.
- **Environmental Education and Awareness** : Provide education about the importance of environmental conservation and sustainable agricultural practices to visitors, local communities, and farmers involved in the project.
- **Research and Innovation** : Encourage and support scientific research that can improve understanding of the interactions between agriculture, the environment and mine rehabilitation.

- Community Participation and Local Engagement : Involving local communities in the planning, development and management of edutourism projects to ensure that their needs and perspectives are taken into account.
- Environmental Risk Management: Identify potential environmental risks and develop contingency plans to address undesirable events.

By considering and implementing these aspects, developing ex-gold mine education based on sustainable agriculture can be a successful model for utilizing neglected land in a positive way for the environment and local communities.

Edutourism is a form of ecotourism that has a positive impact on the development of an area. This positive impact must of course be balanced with well-maintained natural conditions so that it can be an attraction for tourists or visitors. Conservation-based ecotourism is ecotourism development that focuses on environmentally friendly tourism patterns, where ecotourism development must be able to maintain, protect and be responsible for preserving nature (Pattiwael, 2019). Strategies and policies in managing ecotourism-based conservation areas are an inseparable part of ecotourism-based conservation area management. The existence of strategies and policies that apply to ecotourism-based conservation areas will increase the number of visits and can increase the value of local opinions (Al Hakim et al., 2022).

#### 4. CONCLUSION

The potential for developing edutourism on reclaimed land from a former gold mine based on sustainable agriculture in Nagari Palaluar, namely the Sitampan Edutourism Package and the Sikamek Edutourism Package, has a positive impact from economic, social and environmental aspects involving the community, the Nagari government and tourists. In developing edutourism on post-mining land, the District Government should also provide support because this edutourism concept also contributes to regional income.

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