Optimazing the abandon mining as an alternative for tourism destination: the case of Lombok Island

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Abstract. The environmental impact of mining on land is unavoidable, which calls for actions to optimize the unused surface-mined lands. One of the alternatives is to the unused surface-mined lands for tourism destinations. As a tourism destination, this effort will local people in terms of regional development and community’s incomes. This research aims to analyze the extent of how to utilize the unused surface-mined lands in the Balibe Hill, Bonder Village, Central Lombok. The research design will employ field observation and interviews with local government and local community. This is important to gain data and information about the existing environmental condition and the community’s livelihood in the study location. The data will be analyze to find out the capability of turning the unused surface-mined lands into tourism destinations and assessing the benefits of the initiative on the environment and the local community. The results show that the alternative use of the unused surface-mined lands can be beneficial if they are designed to become tourism destinations. Unproductive lands can be converted into productive lands, considering that tourist destination in the unused surface-mined lands will have specific and unique identity for tourists. The new tourist destination requires facilities and infrastructure that are representative to support the functions.

1. Introduction

Mining activities bring impacts both positive and negative. The positive impact is the availability of job opportunities as source of livelihood for the community of Bonder Village. The negative impact on the other hand is the existence of land damage or land degradation. The degradation of mined land also includes changes in the landscape, physical changes, changes in chemical and biological conditions of soil, microclimate and also the changes in flora and fauna [1][2][3].

Land damage due to mining activities is unavoidable. Alternative efforts are required to utilize ex-mining land for optimal use. Land use is a modification made by humans toward the environment such as industry, agriculture, settlement, tourism, mining and all activities that support the sustainability of human life. Land use is also defined as several setting, activities and inputs which are done by humans on certain land [4][5][6].

A utilization of ex-mining land does not have to restore the condition of the former mining as maximum as before because the physical condition of the land has changed. The efforts to utilize an ex-mining land must consider the highest benefits for the community that is sustainably manageable to bring positive impact on the improvement of the economic welfare of the community. Thus, even though there are no more mining operations, the community in particular and the country in general can still receive many benefits.
Land utilization can be carried out in various forms such as reservoirs, agriculture, plantations, new settlements, sports areas, tourist attractions and others. Use of ex-mining land depends on the condition and carrying capacity of the land post-mined. Mining activities should be done with environmental awareness and perspective, always paying attention to nature, the environment and surrounding communities. Thus, it will bring results and huge benefits. In addition, environmentally-friendly mining will not damage nature and the environment [7][8] that may lead to potential danger and threats to safety and/or health of both workers and surrounding communities.

The potential use of ex-mining land as a tourism destination can be an alternative effort to encourage the improvement of the socio-economy of the surrounding villages[9][10]. In addition to that, the mining activities currently operating on some parts of Balibe Hill areas can be stopped. With good management [11], there is possibility to make the land into one of the new tourist destinations to support the regional tourism industry, such as the reclamation former mining land that has been conducted in the Lembah Hijau of Ijobalit, East Lombok [12].

Along with this, the tourist destinations can certainly add value and generate new economic resources for the surrounding people after the mine closure [13]. However, the post-mining land use management as a tourist destination must be in line with the Central Lombok District Spatial Planning. This study aims to know the existing potentials in Balibe Hill and the ambitions of the people of Bonder Village to utilize the former mining area of Balibe Hill as a tourist destination.

2. Method
The data collection in this study was conducted by using field observation method, interviews and documentation. The field observations were carried out to determine the conditions of the field and landscape potentials in Balibe Hill. The interviews were conducted to find out people’s expectations by distributing questionnaires in the form of open dan closed-ended questions. Respondents were determined by using purposive sampling with a sample size of 100 people. The respondents were chosen intentionally and deliberately with consideration that they are people who live in Bonder Village, West Praya Sub-district, Central Lombok District.

Documentation is the provision or the evidence and information collected (such as pictures, quotations, newspaper clippings, and other reference materials) based on the online version of the Standard Dictionary of Bahasa Indonesia or known as Kamus Besar Bahasa Indonesia (KBBI). Documentation was carried out to get an overview of the conditions and potentials of Balibe Hill.

3. Result and Discussion
The former mining area of Balibe Hill is located in Bonder Village, West Praya Sub-district, Central Lombok District, West Nusa Tenggara. Good access road to the location is available, both from Lombok International Airport (BIL) and from Lembar Harbor. Not all parts of Balibe Hill are in former mining land as mining activities are still taking place in some parts of it. Mining activities at Balibe Hill are operated by the people of Bonder Village and have been running for decades. This rock mining is done manually with simple equipment.

Based on the interviews conducted, the education level of the Bonder Village community around Balibe Hill is mostly junior high school level and the livelihood of the community is as farmers/traders/artisans and miners. Therefore, rice fields and the Balibe Hill rocks should be taken into consideration when turning the former mining land at Balibe Hill into a tourist destination.

The current condition of the area is that not many facilities are available on site because it is still in natural condition. For the supporting facilities currently utilized are properties belong to the community. Public facilities are yet to be developed, especially those intended for visitors. A three meters wide road is available to the location, which used to be the access road passed by the trucks of the former mining companies. The length of this road is around 300 meters from the main road of Bonder Village. In addition, there are also several community stalls around the location, selling food and drinks for visitors.
The result of field observations is that Balibe Hill has a landscape potential that is good enough for a tourist destination. The hill which is located in the middle of rice fields and settlements area makes Balibe Hill unique. Beautiful natural scenery, such as the beauty of the sunset and sunrise from the top of the hill (Figure 2), hills and rice fields (Figure 1), small pools of former mining excavation of the area under the hill, the beauty of the Lombok International Airport lights at night and the beauty of Mount Agung in Bali.

In addition to the above, the rocks left by the former mines in the area have turned into a very interesting form of rock structure that can be used as educational material for the community in a wider scope, especially those who are not familiar with rocks. Thus, the Balibe Hill location can also be used as a vehicle for educational tourism in the form of geo-tourism [14]. Educational tourism provides added value to not only traveling but also education. It also serves the purpose to add educational value, while the geo-tourism can be used to serve a tour for people with special interests by utilizing the existing natural resources.

**Article 30 Paragraph (2) of Regulation Number 7 of 2011 of Central Lombok Sub-district concerning Spatial Planning (RTRW) for Central Lombok Sub-district of Year 2011-2031 states that the allotment of the area for natural tourism objects includes natural forest and/or inland water in North Batukliang Sub-district, Pujut and West Praya; marine tourism in the Sub-districts of Pujut, West Praya and Southwest Praya; and geological and/or volcanological nature tourism in the Sub-districts of North Batukliang, Kopang, Pujut and West Praya [15]. So, seen from the Central Lombok District RTRW the use of the ex-mining land of Balibe Hill in Bonder Village, West Praya Sub-district as a tourist destination is in accordance with the Central Lombok Gegency RTRW.

Nowadays, Balibe Hill has become a well-known tourist attraction and is visited by many local and international tourists who come to take pictures and enjoy the beauty of the sunset from the top of the hill.
There are quite a lot of publications about Balibe Hill on social media, both done by the Tourism Awareness Group (Pokdarwis), Lombok tourism lovers community and visitors.

The establishment of Pokdarwis of the Balibe Hill which is aimed to develop the Balibe Hill tour has been approved based on the Decree of the Head of the Central Lombok Sub-district Tourism Office. The establishment of Pokdarwis is an effort made by the Government to develop tourism. The establishment of Pokdarwis is based on the Presidential Decree of the Republic of Indonesia Number 16 of 2005 Concerning Culture and Tourism Development Policy. The position of Pokdarwis as an organization under the Ministry of Culture and Tourism as stated in Minister of Culture and Tourism Regulation Number PM.07/HK.001/MKP-2007 concerning the second amendment to the Minister of Culture and Tourism Regulation Number PM. 17/HK.001/MKP-2005 concerning the Organization and Work Procedures of the Ministry of Culture and Tourism. Pokdarwis has an important role in developing tourist destinations. Pokdarwis’ role is to explore the existing tourism potentials, invite the local communities to participate in developing the Balibe Hill tour, carry out tourism promotion, provision and improvement of tourist support facilities through coordination with relevant agencies and local governments. Mining activities that are still operating are currently a big task for the Balibe Hill Pokdarwis. Pokdarwis of Balibe Hill aims to make Balibe as a halal tourism object.

Based on the condition of the existing supporting infrastructure, it is necessary to arrange and build facilities and infrastructure such as toilets, parking areas, prayer rooms, etc., to provide a more comfortable and pleasant atmosphere for the tourists. Creating a comfortable and pleasant tourism atmosphere must also be done by the local community to increase the number of visitors. Increasing the number of visitors will have an impact on increasing the community’s income and improving their economy. Moreover; an increase in income is expected that people who work as miners can switch jobs to tourism or other jobs.

In addition to structuring and constructing facilities and infrastructure, pokdarwis must also continue to explore the tourism potentials in Bonder Village, such as cultural tourism in the form of pottery vessels and making various types of sharp weapons. Currently, clay in Bonder Village is used as raw material for pottery in Penujak Village, so this is an opportunity for the community of Bonder Village to make use of the resources in the village wisely.

The interviews also revealed that some of the respondents have expectations that if the Balibe Hill became a tourist destination, it should be supported by the construction of facilities and infrastructure. The community will arrange their residence to be neater and cleaner, maintain the security and order at the tourist locations while community groups (Pokdarwis) will be in charge of the management of Bukit Balibe tourism. But from these expectations, there are 10% of respondents who expect that the government provides replacement jobs with greater income compared to as being a miner.

To create the tourist destination as an alternative to the utilization of the former mining land at Balibe Hill maximum efforts are required from various parties, stakeholders and the community. The ongoing use of the former mining land at Balibe Hill with the full support of the community has a more positive impact on the village economy and regional development.

To reduce environmental damages and on the other hand to increase the use of the former mining area and the economic growth in the community, participation of the local communities is required and this is the goal to be achieved by the Balibe Hill Pokdarwis through the development of the Balibe Hill tourist destination.

4. Conclusion

One of the alternatives to make good use of the former mining land at Balibe Hill is by changing its function into a tourist destination. Apart from the potential landscape, the Bukit Balibe Pokdarwis has become the driving force behind the development of Balibe Hill as a tourist destination. However, it is necessary to approach the surrounding community in this regard, since 86.67% of the surrounding community do not want Balibe Hill to become a tourist destination. Meanwhile, this needs to be materialized to prevent further environmental damages and to provide a positive socio-economic impact on the surrounding community.
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