



# Converting Ex-Mining Site Into Plantation Land in the Province of the Bangka Belitung Island

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## ABSTRACT

Mining activities on Bangka Island began in 1711 and in Belitung in 1852. The Regional Environmental Agency of the Bangka Belitung Islands Province in 2014 issued an inventory of environmental damage, a total class of critical land covering an area of 1,675,240.51 ha, with criteria for critical land and critical potential. respectively 15.15% and 37.28%, 44.54% in the form of slightly critical land and 10.79% in the form of non-critical land and others. So that thousands of hectares of ex-mining land need to be utilized. Utilization of ex-mining land can be used as tourist attractions, plantations and others. Thousands of hectares of ex-mining land raise concerns about the lack of plantation land, because the majority of the people are farmers. The former tin mining area in the Province of the Bangka Belitung Island was turned into plantation land which was dominated by oil palm plantations, while acacia trees and paper trees were also planted. This transfer of function is not only on community land, but also on the Mining Business Permit (IUP) PT. Tin and personal.

**Keywords:** *Ex-Mining Land, Environment and Government*

## 1. INTRODUCTION

In 2014, the Regional Environmental Agency of the Bangka Belitung Island Province issued an inventory of environmental damage, the total class level of critical land was 1,675,240.51 ha with critical land criteria and critical potential of 15.15% and 37.28%, 44, 54% in the form of slightly critical land and 10.79% in the form of non critical land and others. The criticality level of this land only reaches 10.20% of the land area of the Bangka Belitung Island Province. According to the BAPEDDA of the Bangka Belitung Island Province, the problem is not the size of the percentage of damaged land which is only small, but the real danger, namely environmental damage that has reached a stage that cannot be utilized.

Various efforts have been made by the government in structuring ex-mining land such as reclamation by PT. Timah Tbk and PT. Kobatin, increasing soil nutrients, and making it a tourist spot. Meanwhile, the number of underground distributions continues to increase and becomes shallower, accompanied by changes in the way the community uses TI mining. In 2015 in the Regional Environmental Statistics Data Book of the Bangka Belitung Island Province, the number of pits was 192 with an area of 1 ha to 22 ha.

Some of these pits have been used as tourist attractions, bathing places for residents and some have not been used at all, leaving the water under water containing heavy metals, including ferum (Fe), lead (Pb), and arsenic (As) which are harmful to humans health.

Tin mining activities in Indonesia have been going on since the 17th century, on Bangka Island in 1711, in Singkep in 1812 and in Belitung in 1852. After the enactment of the regional autonomy era, unconventional mining (TI) activities were rampant, based on data from the Department of Energy and Mineral Resources of the Bangka Belitung Island Province, there are 1,315 TI in the Mining Business Permit (IUP) area of PT. Timah Tbk in 2015, this number does not include TI outside the Mining Business Permit of PT. Timah Tbk [8].

This unconventional mining activity (TI) has shifted the function of the land from the agricultural sector to the non-agricultural sector, namely mining. This happens in almost all districts in the Province of the Bangka Belitung Island. The community carries out activities on their plantation land, so this has an impact on the lack of land for farming. Land conversion or conversion of agricultural land is actually not a new problem [2]. In addition to the impact of environmental

degradation, the shift of people from farmers to miners who lose their land access for agricultural land, will be socially affected. Farmers who were originally owner farmers are now slowly starting to change their position to become sharecroppers, farm laborers, unemployed or moving to other jobs [2]. This is because after their mining activities are finished, they lose their main livelihood as farmers who have land to work on, meanwhile the land has been used up as mining. So that farmers have the choice to change jobs to become cultivators, farm laborers and unemployed or to change the function of land from former mining to plantations.

The conversion of this ex-mining land can be in many forms and can be found in the Province of the Bangka Belitung Island, such as being a tourist spot under, sand dune tourism for photo spots, bathing for residents, fish ponds with a floating net chart system with Tilapia fish species, banana plantations, oil palm plantations, and paper plantations. The majority is dominated by the conversion of ex-mining land into plantation land. So it is necessary to identify the distribution of conversion of ex-mining land into plantation land as an effort to return agricultural land and to know the types of plantations planted in ex-mining areas.

## 2. RESEARCH METHODS

This research was conducted in the Province of the Bangka Belitung Islands, namely 6 regencies and 1 city, namely South Bangka Regency, Central Bangka Regency, Bangka Regency, West Bangka Regency, Belitung Regency and East Belitung Regency and Pangkalpinang City. Site selection begins with analysis through mapping the mining area with the help of applications such as Google Earth and GIS software.

The types of data used in this study are primary and secondary. Primary data was obtained through direct observation in the field. While secondary data is obtained through literature studies and other sources. One of secondary data is data of the Mining Business Permit (IUP) area of PT. Timah Tbk, data of Google Earth and the researcher analyzed the data to determine the point.

Methods Sampling in this study using the method of sampling intentionally (purposive sampling). Sampling was carried out with several considerations and certain objectives [6].

## 3. DISCUSSION

### 3.1. *Transfer of Land Functions and Effecting Factors*

Land for the community as a place to live and a source of livelihood. For farmers, land is a source of food production and survival. For the private sector, land is an asset to accumulate capital. For the

government, land is the sovereignty of a country and for the welfare of its people. There are many interrelated interests in land use, this results in overlapping interests between actors, namely farmers, the private sector, and the government in utilizing land [2]. Defines land use change as a change in the use of a land from its previous use which causes a negative impact on the potential possessed by the land before it is converted [3]. Land conversion is a change in the function of part or all of the land area from its planned function to other functions that have an impact on the environment and the potential of the land itself [1].

Land conversion can be permanent or temporary [5]. In this case, the transfer of land functions is temporary, namely the transfer of land functions from agricultural land to non-agricultural land such as mining, because mining activities do not last long. The abandoned pits due to mining activities will not be utilized if they are not immediately converted to function. The determinants of land conversion are economic, social, and land regulations [4]. Land owners will transfer land use when other sectors provide more benefits [4]. So that the competition for land use between the agricultural and non-agricultural sectors causes land conversion [2].

One of the factors in the occurrence of land conversion is land regulations from the government [4]. Government policies in supporting agriculture were able to prevent land conversion [4]. To reduce land conversion, the government can tighten legal regulations on spatial planning and implement them. In the Bangka Belitung Island Province, which seems to be engaged in the agricultural sector, the government and society are actually trapped in the non-agricultural sector, namely unconventional tin mining. This TI is increasing in number and adapting in new ways, such as from TI Dompeng or commonly called TI Darat, whose equipment uses large machines and costs up to tens of millions, turning into TI Tungau or Upin-ipin and TI Rajuk, which have more tools, affordable and cheap only around 4-6 million / unit and can reach tin ore at a depth of tens of meters. This is because the mining or non-agricultural sectors can provide more benefits.

In addition to the mining sector providing more profits, the mining community is also due to the increasingly expensive costs of agricultural productivity. The majority of the people of the Bangka Belitung Island Province are pepper farmers, where the price of pepper production is getting more expensive with the selling price continuing to fall cheaply. Not only that, the existing legal regulations on Spatial Planning in the Province of the Bangka Belitung Island have not been able to limit TI mining activities that are rife in the community. So this not only has an impact on environmental degradation but also reduces land for agriculture.

### 3.2. The Distribution of Functional Transfer of Ex-Mining Land into Plantations

From the results of the study, it was found that the distribution of the type and number of points of ex-mining land that were converted into plantations and not plantations was as follows of the 580 location points sampled, there are 104 points which were former mining areas that have been converted into oil palm plantations, spread over 6 regencies, namely 140 points in West Bangka Regency, there are 53 points that have

converted into oil palm plantations, from 100 points in Bangka Regency. There are 23 points of conversion to oil palm plantations, from 100 points in South Bangka Regency there are 5 points of conversion to oil palm plantations, from 60 points in Central Bangka Regency there are 13 points of conversion to oil palm plantations, from 70 points in Belitung Regency there were 2 points, out of 100 points in East Belitung Regency there are 8 points that have converted into oil palm plantations.

**Table1** Distribution of Plantations at ex-Mining Site

No	Regency	Number of Points	Type and Number of Points		
			Plantation		non-agricultural
			Palm oil	Other Plants	
1	West Bangka	140	53	4	2
2	Bangka	100	23	5	4
3	South Bangka	100	5	1	1
4	Central Bangka	60	13	4	2
5	Belitung	70	2	0	0
6	East Belitung	100	8	2	1
7	Pangkalpinang	10	0	0	0
Total		580	104	16	10

The age of the oil palm plantations varies, for example in West Bangka Regency, several types of oil palm age were found according to estimates, namely approximately 1 year, 5 years and 10 years. In addition to oil palm plantations, 16 locations have been converted into other plantations. In West Bangka Regency, there are 4 locations where cassava plantations were planted, 1 location was planted with acacia, 1 location is for cashew plantations and 1 location is avocado plantations. In Bangka Regency, apart from oil palm, hybrid coconut trees, oranges, banana trees and paper trees were planted in the Belinyu area. In South Bangka Regency, acacia trees were planted. Central Bangka Regency is planted with pineapple, acacia, areca nut plantations and local residents cultivate crops, the same as in East Belitung Regency.

Not only has it been converted into plantation land, some location points have been converted into tourist attractions, such as in South Bangka Regency, Central Bangka Regency, East Belitung Regency. Some location points become ponds, such as in West Bangka Regency, 1 location point and 3 location points in Bangka Regency. One location point in Central Bangka Regency has become a residential location for residents.

## 4. CONCLUSION

Land conversion can be permanent or temporary. In this case, the transfer of land functions is temporary, namely the transfer of land functions from agricultural land to non-agricultural land such as mining, because mining activities will not last long. The abandoned pits due to mining activities will not be utilized if they are

not immediately converted to function. In addition, the community is faced with the choice of becoming laborers because the land to be worked on has become a former mine. This forces the community to have the initiative to change the function of the land, even though the water content under the pond contains heavy metals that are harmful to health, in addition to the lack of public knowledge about how to change the nutrient levels in the soil. The conversion of land from ex-mining into oil palm plantations is the most widely used distribution by the community. Oil palm is considered to be able to live longer on ex-mining soil, compared to other plants [9].

This needs to be the concern of the local government to immediately reorganize the use of land based on the Regional Spatial Plan (RTRW), so that the community can again access land that can still be utilized, either in the form of rules governing the use of land that has not had mining activities as well as socialization and assistance for land that has been converted by the community.

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