

**Political Ecology of Tin Mining**

**A Discourse Analysis of the Human-Environment Relation in the Study of Illegal Tin Mining on Bangka Island**

Degree of Master of Science (Two Years)

Human Ecology: Culture, Power and Sustainability

30 ECTS

CPS: International Master's Programme in Human Ecology

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Term: Spring 2018

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Examination:	Master's thesis (Two Year)

Term:	Spring 2018
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### **Abstract**

Bangka Island has been known as the most important tin producer in the world. Tin has developed the economy of the local people and even Indonesia in general. Unfortunately, mining is not only operated by corporations, but also by local people without proper procedures, resulting in a ruined landscape and ecosystem. Eventually, on 8<sup>th</sup> February 2016 a flood occurred and influenced the emotions of the victims in Pangkal Pinang, Bangka. Scientists debate whether what happened in Pangkal Pinang and another area in 2016 were caused by inappropriate reclamations of illegal mining practices, or simply a natural disaster.

This research is a case study of illegal practices of mining in Bangka and presents local newspapers as analytical tools to understand the role of tin mining in the Bangka region and how illegal tin mining plays a role in both society and nature. A Political Ecology

perspective is used to look at the human-environment relation and how human and nature act as separate entities, but in the end are connected and bounded.

Keywords: *Illegal mining, Tin, Bangka, Political Ecology.*

## **Acknowledgments**

I would like to say thank you for the most supportive husband and lovely daughter, Firdus and Amira. I am happy to spend time in Lund because I have both of you.

Thank you for Ibu dan Papa, the most amazing parents. And Also Abucik, for being the best Father-in-law.

Thank you for all brothers and sisters for always say that I can do it. Especially for Abang Pipin, the best helper and enemy.

Thank you Vasna for helping me to get through all the confusion while writing the thesis.

Thank you Andreas, Anders, and Alf to give me much lesson that push me to be more critical.

For all Indonesian friends; Nurul, Ayu, Ninan, Meta, Dea, etc for all the times of sharing and laughing.

Thank you Shawnell for helping me fixing the writing.

And for Valentina, Rachel, Jessie, Rebecka and all CPS students Batch Autumn 2016. Thank you so much.

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## Preface

*“It was February 8th, 2016, for the first time in decades flood occurred in Pangkal Pinang, capital city of Bangka Island, Indonesia. I was born there, and my lovable parents lived in the middle of the town. There was no electricity, and flood carried away all food and consumed water. They were stuck in their house for two nights and waiting for the rescue team. They were worried as well as me.*

*I was looking down from the plane after the flood subsided, so the airport already opened, on the next four days. I saw beautiful holes in exotic colour on the land. They were not the tourist attraction as it looked like.*

*There is another fact beyond its beauty that is unconventional and illegal tin mining (Indonesian called as Unconventional Tin-TI). Natives call it "artificial lake". Well, it just the neglected area which is left without conservation, by people.”*

The above quotation mirrors my feeling after the flood in Bangka. I am fully aware that land degradation, deforestation, and natural resource exploitation are common terms in countries where mining activities are a priority, including Indonesia. The water disaster that knocked down the capital city and peripheries of the Island is just one outcome of it. However, today, floods are a regular visitor after heavy rains. There has been nothing as bad as the disaster of 2016 and no one can guarantee the tragedy has ended.

To choose Human Ecology as a second degree gives me influence I could never have imagined. I feel as though I am living in a different world, a new land of critical thinking. I can say that I am not similar in the way of thinking to my colleagues. There are many times that I stand for a different side. Sometimes, it seems difficult to handle the disparities. Fortunately, one day I read the book by Kari Marie Norgaard, *“Living in Denial: Climate Change, Emotions, and Everyday Life”* which led me to the conclusion that what she found in her journey is the reality that I find in my home. However, my identity is still a specific type that shows up in the discussion group or the way I express my ideas. It is a journey for me, a process of finding a good way to contribute to protecting the world.

## Introduction

To illustrate the necessity of tin in humans' lives - it is one of the most important components that influence our daily activities. According to The Organisation for Economic Co-operation and Development (OECD), all electrical products; lighting; jewellery; eyeglasses; canned food, etc. have tin as the primary content.<sup>1</sup> The existence of tin has become so essential to support human activities, meaning it must be sustained and protected as one of the precious natural resources.

One of the tin producers is Bangka Island, a seahorse-shaped island in the south of Sumatera. It is about 11,340 square kilometres with beautiful beaches, but rarely mentioned as a tourist attraction. The majority of the population are Melayu and Chinese, and economic development is focused on tin mining. Bangka is the most crucial tin producer in Indonesia and the third largest tin exporter in the world. Bangka has also been exploited in human exertion and ecosystem demolition. Since the 17<sup>th</sup> century, VOC, known in English as the Dutch East India Company, has monopolized tin production and for decades has hired local people to work as miners. Tin was managed by Sultan Palembang who managed tin as a regional business which supported South Sumatera, including Bangka, and who cooperated tightly with VOC. From the VOC era, Indonesia's tin was controlled by colonizers, Britain and Japan, until Independence day. After Indonesia's liberation in 1945, the government took control of the industry. The policies for tin production have altered many times, following the change of governance, laws, problems that emerged, and government's agendas. In 1999, the Indonesia Ministry of Trade and Industry suggested tin as a local business and allowed people to mine unconventionally, however there were no specifications made for the methods used or even the closure of mines. Local mining groups engaged in onshore and offshore mines even in protected forests (Nurtjahya et al. 2015). Everyone was allowed to mine using their [own] methods and tools, such as dredges or floating mines. There was no supervision for conservation.

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<sup>1</sup> Also decorative crafts, sport equipment, power tools, PVC, buckles, zippers, buttons and metallicized yarns.  
<http://www.oecd.org/daf/inv/mne/ListProductsContaining3Ts.pdf>

#### A. Economic Value

Tin is one of the key materials in the world. Most electronics and automobiles include some tin components. Indonesia is one of the world's largest tin exporters, and 90% of Indonesia's exported tin comes from Bangka Island. In 2013, more than 100,000 tonnes of tin were sent to Singapore, Malaysia, Japan, and the Netherlands. Compared to other industries in Bangka, such as pepper and rubber production, tin brings the highest prices. The rate for tin in 2007 was USD 16,000/ton (*Bangka Pos* online, 2007 quoted by Nurtjahya et al. 2008). Peasants receive more than 21 million rupiahs/ha in mining, which is equivalent to ten years of income from pepper agriculture (Nurtjahya et al. 2008). Erwiza Erman (2009), when writing about the history of tin in Bangka, claims that Bangkanese spend much more time on tin errands than on concerns with governance because the financial benefits come from tin. This influences the general Bangkanese preference to be more tin-minded.

#### B. Human-Environment relation

In the warmer world where many peasants have lost their pepper operations to floods, it has been difficult to maintain their activities as the weather gets warmer and frequent heavy rains increase the level of crop failure. This means that being a miner has become a better option. Following the legal law that allowed unconventionally mining in 1999, the number of independent miners in society increased rapidly. However, approximately seven years later the unconventional mining led to many environmental problems, for example: deforestation, sea pollution, ecosystem destruction, etc. This shows that mining without appropriate management creates land degradation and destroys the environment. Then, the current government at the time decided to ban the law. Unfortunately, the ban caused a stir and led to protests by miners - those who gain the most disadvantages from the closure of unconventional mining.

The economic benefit must be paid with environmental degradation. The direct results of mining includes the degradation of coastal ecosystems caused by offshore mines, which has dumped tailings into the ocean and spread more than 5,000 square km due to wind (was recorded by the University of Bangka-Belitung). Other results from mining include deforestation; floods; and the destruction of the wilderness. Moreover, slugs from smelters



containing radioactive elements threaten environmental sustainability and public health [e.g., cancer] (Milieudefensie factsheet "responsible mining: Tin", 2016).

### **The Dilemma of Tin Mining**

After intense mining activity in Bangka, severe floods have occurred. The worst was on 8<sup>th</sup> February 2016 in Pangkal Pinang, the central city of Bangka. Scientists debate whether what happened in Pangkal Pinang and other areas in 2016 was caused by inappropriate reclamations of illegal mining practices, or simply a natural disaster. There were a lot of dialogues and interviews in the local and national media to discuss unconventional or illegal mining. The option is between whether it should be closely supervised or banned outright. The opinion that emerged was mostly supportive of continuing unconventional mining, saying that prohibiting it was tantamount to taking local people's lives. They would lose their income and their means to provide for their families. It is distressing to see how crucial tin mining has been for Bangka's economic development for decades, while its role in environmental destruction has been ignored (*ibid*).

Abundant research is available on two main arguments. The first is related to ecosystem destruction due to tin mining and another focuses on the efforts of activists and researchers to regenerate the land after mining. Andri Kurniawan (2017) stated in his paper that the problems (in Bangka) occur because of land degradation, natural drainage, pollution, metal contamination, and the resulting destruction of habitats on land and in the sea (Ashraf et al., 2010; Ashraf et al., 2012a; Daniel et al., 2014). Following Andy, other studies claim that mining has huge negative effects on the environment, and it changes the landscape of the land. To maintain the mining activity there is overexploitation of tropical forest ecosystems, which is leading to land degradation and damage (Asmarhansyah et al., 2017, C Agus et al., 2017). However, it is also agreed upon that tin mines have developed the economic and social lives of the natives.

The previous research on the ecological destruction caused by illegal tin mining always takes an ironic tone when explaining that tin mines have damaged the natural habitats in the forest, or in the sea. This is because, on the other side, there is also a positive economic impact where the money generated by the mining industry is one of the greatest influences on

development. Unfortunately, this is in direct opposition to environmental protection. The significant economic benefits to local people and regional governments create financial dependency between local people, government and the mining industry. Those who exploit just focus on one side - the one that is gaining money.

To elaborate on the issue of tin in Bangka, political ecology discourse is the primary tool with which to deeply analyse the phenomena. This will be done regarding the historical, economic dependency; how it has transformed Bangkanese and the local institution for years; and how it has given the local economy influence at the national level. On the other hand, land degradation, water pollutants and a low level of health security have emerged as consequences and challenges.

### **Aim and Research Questions**

In the discussion of environmental issues and their causes, political ecology plays a role in the analysis, starting from the historical dimension both on biophysical ecology and social science (Walker, Peter A., 2005). The combination of ecology with social science provides the main thrust of political ecology and shows how it reflects the human-environment relation. Paul Robbins (2012) states that:

"...political ecologies are characterized by a stubborn insistence on describing the transformation of the physical world as well as the complex systems of meaning and representation that make it difficult, if not impossible, to know the condition of the physical world."

The definition of political ecology, indeed, is related to human and ecological transformation. It also includes the issue of human involvement in world landscapes. Regarding human-ecology relations, Braje and Erlandson (2013) agreed that humans have altered the ecosystem, which has affected the environment significantly. The imperatives of marginalization, coloniality, political economy, and land degradation make humans dominant over the earth. In Bangka tin mining, many factors compound the industry. Braje and Erlandson (*Ibid*) say that human activity has dramatic impacts on the environment. This depends on how people have acknowledged their position in between their existence and the degradation of nature. A human can be a good keeper of nature, or s/he can be the worst destroyer of the environment.

Contrary to human actions which destroy the landscape, in the first chapter of his book, Vogel (2015), quotes Mckibben's thoughts on wilderness who says that, " ... it refers to that part of the land that has not been settled or transformed by human action." If the definition of wilderness was applied to the history of Bangka Island, the discussion would go in an undefined direction where it is not possible to say Bangka was natural before its transformation to a mining centre. Therefore, I would like to focus on and underline its transformation from mining land to illegal mining land. The current condition of Bangka is easy to compare to last year, two years ago, or ten years ago. However, the discussion will not go deeply into the forms of natural or artificial environments as is explained in the book. It will only use the history of defined wilderness and how it has illustrated the change of the Bangka landscape. To extend into the analysis of human action, Norgaard's explanation of community ignorance to the changing climate and environment will be used. This will help to elaborate on and justify why Bangkanese, specifically, are voluntarily embedded in the circle of economic value and ecological destruction, while seemingly have no desire to recognize the complicated relation between humans and the environment.

Beginning with the explanation of Bangka tin mines and human practices, the aim of the research is to understand the role of tin mining in the Bangka region and how illegal tin mining plays a role in both society and nature. It will focus on the analysis of the human-environment relationship of Bangka tin mining by using the following research questions:

1. How is illegal tin mining portrayed in the media?
2. What are the impacts of illegal tin mining on the environment?
3. What is the government policy towards tin mining and what are the gaps in addressing illegal mining?

### **Methodology and Methods**

Paul Robbins (2012) and O'Connor (1996) argue that political ecology research contributes to building general theories of power and capital relation to ecosystem destruction, for example, through environmental (activist) movements. This thesis is based on the case study of Bangka Island and a qualitative method with critical discourse analysis (CDA) throughout the whole process. The reason for using a CDA is based on the analytical tools, i.e. local newspapers, which contain the critiques and information related to illegal mining. The language of critiques leads me to easily find analytical tools. However, the research comes more

practically as a discourse analysis that covers not only critiques, but also perspectives and reports from the actual scene. Using discourse analysis in the research is done to preserve the new results of illegal mining research, the application of mining management policy, and how it has affected structures, ecology, and governance.

For the purpose of this research, I rely on Janks's explanation of critical discourse analysis from Fairclough's methodology on critical discourse analysis, which she believes is an instrument to see the function of language in a text and how it affects power relations. It is also included in the discussion of text position, aims, impacts and consequences (1997). To apply a CDA model, Janks uses Fairclough's analysis that requires three dimensions, i.e., the object of analysis, the process by which the object is produced and received, and the socio-cultural influences on the process (*Ibid*). The analytical approach that applies is as follows:

1. Text and images (description);
2. Processing (interpretation);
3. Social analysis (explanation).

As is stated above, text and images that describe tin mining in Bangka are the primary material in the research. The sources must be published in local newspapers, articles, books and online sources. Using public discourse, the research aims to represent a holistic view of stakeholders and activists involved in the issue, and also to apply a public perspective in general.

a. Texts

Hillary Janks suggests beginning with text when doing CDA. By starting with reading and engaging with a single text, it can lead to questions and hypotheses that might be answered in another text. The text consists of language, images, symbols, maps, blogs, or other types of media communication. In (political ecology) research, texts are the production of theoretical knowledge from human-environmental work where many conceptual approaches are used. It is based on fieldwork and participation in the location, remote sensing, and historical studies (Paul Robbins: 2012).

b. Images

In newspapers, company public reports, and other resources that are telling stories about tin mining, images forge a connection between the picture and the viewers, building a sense of attachment (*Ibid*). Janks (1997) has a similar argument:

“.....the shot of images has meaning; for example, an advertisement in which a product was shot close-up, which implies to the viewer to feel an intimacy with the object.”

It is the main supportive object to explain more of the text. Images of miners, land degradation, and the history of coloniality will provide companions to the text.

The overall process relies on text documents and images. Materials will be gathered based on the research objectives. A local newspaper, the *Bangka Pos*, is used as a primary source and is supported by PT. Timah annual reports. It will focus on corporations' power, government involvement, and social response. In the passage following, with the same resources, the research will also briefly analyse the economic dependency of Bangkanese on tin mining to show how tin mines have destroyed the ecology. After that, all the necessary literature will be integrated into documents for giving a human-relation analysis in the process of mining.

### **Limitations**

There are so many historical basics, economics, socio-politics, and other dimensions in the issue of tin mining in Bangka that would be interesting to examine. But in this thesis, I would like to limit the discussion of political ecology and scrutinize the matter of illegal mining, specifically the production method of tin where there is no legal authorization in the process of mining. This is inspired by the urgency of political ecology to discuss the matter of power structures, ecological degradation, and their connection to income. The significance in focusing more on illegal mining is due to the destruction that occurs after the mining. Without any proper procedure or technique in the production, delivery, and even in the closure of mines, illegal mining is the suspect for any kind of destruction, both on land and at sea. Nonetheless, the limitation will not restrict the discussion in the process of analysis where there are so many supporting elements needed for a complete explanation.

The second limitation is the material used in the process of analysis, specifically, one local newspaper, the *Bangka Pos*, based on the popularity and consistency of illegal mining discourse. In these daily newspapers, there is almost always an article on tin mining. The

topics range from government policy to public opinion, etc. The research will focus on the issues printed from 2017 to early 2018.

### **Structure**

I start the explanation from the role of media in this research through the local newspaper, *Bangka Pos*, which delivers the information and reports on illegal mining. The discourse on illegal mining is regular in the newspaper and becomes one of the dominant discussion points. The media has drawn on how illegal mining is clearly seen in land surrounded by communities. This gives insight into the matter of people, and that the mining is not far away from where people live. In the first part, the news from the actual scene will be quoted to give more elaboration on how to solve the critical mining problem. The rejection from the local community, dialogues, warning statements, and even detention are the various examples of mining-related discussions in the newspaper.

Part 2 gives more elaboration on the ecological degradation which occurs after mining is operated illegally. In which case, reclamation is not a priority or not in the procedure at all. The inspiration for doing the research, which is the flood in 2016, became the supportive and the main tool to explain how illegal mining has had an influence on the landscape of Bangka island, and how it has affected people's lives. In this part, Steven Vogel's discussion on wilderness and social construction of nature is briefly discussed to show how the human-environment relation in Bangka has resulted in disaster.

Part 3 takes the thesis to the perspective's gaps in addressing illegal mines. The government's policy and the impacts are not considered as the important factors in solving the problems from illegal mining. Additionally, what matters to society and how the local community has inconsistently acted towards illegal mining is explained in this part.

## Part 1. Media and society

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### 1.1. Local Newspaper has 'a voice.'

The *Bangka Pos* is the best-known local newspaper on Bangka Island. The role of the local newspaper seems sufficient for natives to acknowledge the reality on the ground. The language used in the articles is uncomplicated and local terms are even included sometimes. The advantage of having a local newspaper is in managing the engagement of the reader to the surrounding society. It is also connected to how language represents the ideas of natives and how the newspaper and the locals affect each other. As stated before, the newspaper might not be as nationally qualified in its use of Bahasa Indonesia as the predominant language, because it also includes statements from local interviews in order to be more local-friendly and to provide relatable articles for the reader. However, it is the leading newspaper when it comes to mining in Bangka, delivering the news from the local government, mine workers, and society in the mining country.

In explaining illegal mining, both Bangkanese and the paper mention it as TI (*Timah Ilegal*) which is a common abbreviation. In the last decade, after illegal mining was legalized by the government, the *Bangka Pos* has provided information regarding mining and how people have been excited and interested in becoming illegal mining workers. However, it has also touched upon the ecological destruction that will result and ruin Bangka's land.

The research will be limited to the last two years (2017 to early 2018), and like in the last decade, *Bangka Pos* has continued to provide a great deal of space to mining discourse. The articles about mining are placed on a variety of pages, providing adequate knowledge and even consecutive articles. The running of mining articles proves that local people have a special interest in reading about and acknowledging the improvement of tin mining in Bangka. It is also easy to catch the location where illegal mining occurs, because the *Bangka Pos* delivers the news continuously in a specific region. The method of following the improvements and current conditions of illegal mines is not completely neutral for *Bangka Pos*. What is the aim of delivering the stories? For Bangkanese, reading the local newspaper is the second priority avenue for obtaining information, after direct communication between people.

In addition, the *Bangka Pos*' mining discourse is affected by the reader and vice versa. For the reader, the *Bangka Pos* influences how they feel about illegal mining by reading articles negatively or even in a supportive manner. At the same time, the *Bangka Pos* tries to give a lead to the reader by informing them about the current conditions and constructing its relative position by always quoting data from interviews with stakeholders: government, officials, miners and people surrounding illegal mines.

### *1.1.1. "This mining is illegal."*

It is so interesting to read articles one by one and realize that it has significance to the greater issue. For example, "it is illegal, it pays well, but it ruins the island. However, it is still 'there'". This is such a contradicting deduction, that on one hand it has developed the economy, especially for ordinary people, but on the other has ruined their economy in the future by exploiting the land and the sea. Eddy Nurtjahya, et al. (2008) measure how the economy in two villages changed dramatically with the advent of mining. It can be seen with the improvement in building throughout the area, from wooden houses to concrete buildings. Additionally, the advancement of education has also positively changed as people started sending their children to higher education, something that was not possible before engaging in mining.

The high interest in mining is not only because of positive economic development but also was authorized by Regional Regulations in 2001. Unfortunately, the rule did not really take forest protection into consideration, with the result that the mining continues to cause land degradation. In 2007 and 2012, the mine was retooled to be eco-friendly, and it was decreed that there should be no more mining without legal permission. However, in 2017 and early 2018, *Bangka Pos* was still running articles on illegal mining as prime news which attracts the reader to be more aware that illegal mining is still an unsolved problem. This proves that policy and the rule of law have no significant influence in stopping illegal mining.

‘ Today, Wednesday, November 8th (2017). The sound of mining machines can be heard from the main road Rambat Village. Dozens of Tower is operated behind the watershed mangroves of the village. Miners are busy digging up the tin or collecting and pushing or



pulling their pontoons. It has been suspected and warned about many times. However, miners never stop.<sup>2</sup>

The article describes an event in Rambat Village, Simpang Teritip, West Bangka, where there are 'diligent' illegal mining activities. It is defined as illegal because from the main street people can hear the sound of the machine, which means it is not far and it is operating in the restricted area, near public facilities. Police and local authorities have stopped the mining many times, using both dialogue and force. TI will close temporarily, but activities will go back to normal when miners feel 'safe' going back to work. That is the trend of illegal mining in Rambat.

The detention of illegal miners also occurs in Mendobarat, one of the busiest illegal mines in Bangka, as well as in Simpang Teritip. In October, the *Bangka Pos* reported that in Kota Kapur Village, Mendobarat, Public Order Enforcers (*Satpol PP*) arrested miners for mining near the public bath. Often the main reason for penalizing or banning illegal mining in the region is that local people feel anxious about the effects of illegal mining in their area.

Another example took place in Koba, Central Bangka, where police inspected mining locations and gathered all the local laborers to warn them to stop all illegal activities, and even confiscated their equipment. 'We want all the mining activities to be stopped' as the Head of Regional Police Officer stated.<sup>3</sup>

Unfortunately, these crackdowns did not deliver significant results. In 2018, the illegal mining seems to be the same, and is even spreading around to the other side of the land, to Teluk Uber Beach and the Belinyu region. The motives are still the same, and the miners will stop operating the machine after the warning and detention, but after a while, the miners will go back.

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<sup>2</sup> *Puluhan TI Tower Kembali Beroperasi*, *Bangka Pos*, 10<sup>th</sup> of November 2017

<sup>3</sup> *Pekerja TI Diberi Waktu 4 Hari*, *Bangka Pos*, 23<sup>rd</sup> of December 2017

### *1.1.2. From authorized land to illegal land mining*

To give a more comprehensive discussion of illegal mining, besides on land or at sea, which is 'naturally' illegal, there are many districts where tin mining was legal and owned by public or private companies before, but have changed position after mining practices diminished or the company closed. The most interesting issue comes from PT. Koba Tin, which closed in 2013 due to an expired agreement. In three districts, Marbuk, Kenari and Pungguk, the abandoned lands became the locus of illegal activities. The land is easily occupied by anyone, without any security or guards from the regional government or the previous company. The advantage of working in a formerly legal mine is the assurance of tin. The majority of the land that was occupied by the corporation is abundant with tin. It attracts miners to come and operate the machines without training to get as much as they can. The neighborhood demanded that the government shut down the illegal operation.

In 14th November 2017, *Bangka Pos* delivered the news of illegal tin-mining practices in territory formerly owned by PT. Koba Tin. It includes an interview with the local community, stating;

" Why can TI be activated here? The sounds of the machines can be heard from our house. It disrupts the public comfort. The miners have been asked to leave the area many times ".<sup>4</sup>

Additionally, on the 27th of December 2017 and the 3rd of January 2018, the *Bangka Pos* reported cases from three districts of PT. Koba Tin. Police then cracked down on all illegal activities in the area. More than a hundred officers were placed in the mine to prevent workers from entering and to confiscate the machines. The deputy head of the County Police ordered the officers to monitor the area to prevent any illegal activities for the convenience of the community. Basically, in any area (including the sea) where finding tin is guaranteed, it always attracts illegal miners to come and stay in the area because it is where they can do their jobs.

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<sup>4</sup> *Tambang Ilegal Kembali Marak*, *Bangka Pos*, 14<sup>th</sup> of November 2017.

### 1.1.3. Forever mining

As explained before, illegal mining depends on area availability, devices, and labor. Tin mining in Bangka is a good example of "sustained" illegal activities with all of the necessary support. Based on the majority of articles in the *Bangka Pos* on the subject, illegal activities are followed by detention and force from local people, police, and officials. The newspaper was mostly saying that the detention is the final choice as a deterrent to illegal mining. The process goes through dialogues, a warning statement, and then the final consequence of detention.

Unfortunately, from the illegal mining articles, it can be seen that detention does not work so well, because illegal activities are still happening on a daily basis. For example, in Simpang Teritip, in 2017, the local community, village officials warned the mines to cease their illegal practices and leave the area. The police forcibly shut down the mines and took the workers to jail. Another case comes from three ex-districts of PT. Koba Tin which were supervised by officials and police. However, according to *Bangka Pos* in 2018, the case is still going on in the same areas, with the same problems.<sup>5</sup> The question arises, what is the reason why miners have not given up their actions?



Kapolsek Simpang Teritip Ipda Kukuh memberikan imbauan kepada penambang di DAS dan mangrove desa Rambat beberapa waktu lalu

Picture 1. Current photo of Simpang Teritip mining by *Bangka Pos* by Anthoni Ramli <sup>6</sup>

The key point is that almost all the stakeholders related to tin mines cooperate to ban the illegal practice. The regional government was cornered by the local and national

<sup>5</sup> The articles on illegal mining in Simpang Teritip presented on the 4<sup>th</sup>, 17<sup>th</sup>, 28<sup>th</sup> of January and the 5<sup>th</sup> of February.

<sup>6</sup> <http://bangka.tribunnews.com/2018/02/20/aktifitas-ti-di-desa-rambat-kian-marak-kini-beroperasi-ratusan-meter-dari-jalan>

newspaper to explain why the unlawful practices are still going on. From the articles in the *Bangka Pos* from 2017 to early 2018, or even back to the older articles, the direction goes to economic reasons: income and job opportunities. This might provide the background information as to why all of the miners continue the activities and even prepare to deal with obstacles such as the security-risk of being arrested by police.

The reality of how important tin mining has been for household income was underlined in the introduction. Tin is the most valuable commodity in the area and the profits are much higher for Indonesia as a whole and even for every individual miner. The popularity of tin has inexorably shifted more people to engage in producing it. On the other hand, the availability of land or seashore that contains tin, especially without any proper security or hard punishment, has appealed to the community (not only local) in getting involved in mining, legally or illegally.

## **Part 2. Why does legality matter?**

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### *2.1. Illegal is dangerous!*

Historically, tin smuggling and mining which are operated by people without proper land management started back when Bangka was still part of South Sumatra, when Sultan Palembang was in power. It was an era where tin was fought over between the government, who cooperated with colonizers to sell tin to the other parts of the world, and the independent miners who decided to sell tin on their own. Profits were higher when the latter group excluded government in the selling chain (Milieudedefensie factsheet “responsible mining: Tin”, 2016 ).

The evolution of tin mining up until today shows that the independence of miners has led to illegal actions. The mines which have been owned by individual or collective groups, and operated by hired labour or by themselves, neglect the importance of land or sea protection after the mining has finished. In fact, Bangka is not only dependent on tin, but in fact fisheries, rubber, and pepper farms are three other main options in the local economy. However, tin mining is the most stable and profitable option. Zulkarnain et al., 2005 (quoted in Nurtjahya et al., 2008) mention that since 2001, pepper farms and rubber plantations are no longer profitable because the prices fell sharply on the international market and farmers have

suffered huge losses. This influences many farmers to choose to become miners in order to earn income and save their families. Additionally, being involved in the illegal mining industry is not as difficult as it is to become involved in it legally, such as through government cooperation.

### *2.1.1. The flood in the rainy season*

The cases of land degradation, deforestation, or marine pollution are problems left after the irresponsible actions of people when extracting resources from the earth. The flight journey to Bangka is a good way to acknowledge the transformation of the island. What I saw from the sky is a fake beauty and a “beauty” of destruction, a reason why water in Bangka smells and tastes like tin, and why in many areas floods always follow heavy rains. Bangkanese believe that floods come from the sea. They have criticized illegal mining, but it is still ongoing, and the holes in the land are uncountable, left as memories of non-sustainable mining.

As a native visitor, noticing the change of the island and even counting how many holes are added per year is something that I always do with sadness. The number of holes has never gone down; proof that land degradation has not stopped, and maybe never will. However, it is a bit unrealistic to point out that governmental corporations might not be properly taking care of the mine closures, because to continue doing their activities, all of the companies must sign a contract that demands that the mines will be activated and deactivated in an appropriate way. This is all managed by the owner of the mines, and the labourers in the location.

In 2016, a huge flood laid waste to the island. Pangkal Pinang, the capital city, which was mostly safe in any kind of water disaster, was surrounded by high water levels. Without any warning, the flood happened in just a few minutes. The capital is far from the areas in which illegal mining took place, but the water still came across and threw the community into shock and panic. The government was paralyzed, and the airport was closed. Elders and children were evacuated from their houses. After three days, the water receded. Bangka Pos has published the debate and the analysis from experts to find the cause of the disaster. In the perspectives of the experts, in which local people agreed with, the holes the miners left without appropriate closure were the main cause of the flood.

Approximately a year later, the newspaper continued using discourse regarding the flood and that it was related to illegal mining. The connection is based on the notion that illegal operations were ongoing in forbidden areas: mangrove forests, near public facilities or watersheds, all of which worried the local community. The worries are due to the effects of land degradation in the rainy season, especially when the rains are heavy.

According to *Bangka Pos*, Public Order Enforcers (Satpol PP-red) inspected illegal mines in Merawang dan Pantai Rebo (16/9).<sup>7</sup> The mines are ten meters away from the main road, which makes them off-limits to miners. Moreover, the illegal activities will bring disadvantages to the local watershed and in the end will have a negative impact when the rain comes.

“The location (Merawang-red), suffered from floods in every rainy season, and it was worsened by mining activities. In addition, the mines are not far away from power poles, and it can cause the poles to fall over”, said Suherman, a local community.<sup>8</sup>

The rain and flood are interconnected. If the rain falls continuously, the fear that water will overflow remains. It is just a regular principle that Bangkanese believe. But, it is also a sign of depression, maintaining that the worst case is faith and surrender.

The problems that arise after the regular deluge are not as complicated as in 2016.<sup>9</sup> But it is still scary and worrisome, because it disrupts human activities. No one can foresee what will happen in the next flood. Will it still be safe to live on the island, or not?

## 2.2. *What has been destroyed*

Compared to what happened in 2016, in the last two years the waters are still coming, and the worries remain. When it is raining, people prepare for the worst. Many articles in the *Bangka Pos* discuss the natives’ rejection of illegal mining. The reason for community concerns regarding mine closures is related to saving both the land and their lives. As in the

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<sup>7</sup> *Satpol PP Setop Tambang Ilegal*, *Bangka Pos*, 16<sup>th</sup> of September 2017.

<sup>8</sup> *Ibid*

<sup>9</sup> The flood is coming in every heavy rain, but not as bad as the deluge of 2016, which paralyzed all the public institutions.

community interview above, the insecure feelings come with every rain. The flood in 2016 is the most memorable, which they will hold onto as a warning and feeling of trauma.



Ilustrasi banjir. ANTARA/Wahyu Putro A

Picture 2. The Flood in March 2016 by Wahyu Putro A.<sup>10</sup>



Banjir di ruas Jalan Balai, Kota Pangkalpinang, Provinsi Kepulauan Babel, Kamis (19/1/2017). bangkapos/resha juhari

Picture 3. Pangkal Pinang in January 2016 by Resha Juhari.<sup>11</sup>



Banjir di jalan Pasar Pagi

Yudha Palistian/Bangkapos

Picture 4. Pangkal Pinang in April 2018 by Yudha Palestinean.<sup>12</sup>

It is not easy to find quantitative measurements of how illegal mining destroys the ecosystem. The best that can be reported on in this thesis is based on the annual report of PT. Timah, the governmental company, which is the only one that manages tin mining legally.

PT. Timah started to conserve mining land in 1992, but was contested with allegations of land degradation because of TI. PT. Timah stopped the reclamation of land from 2002 to 2004 because more than 30% of the reclaimed land was destroyed by TI. However, since

<sup>10</sup> <https://nasional.tempo.co/read/757696/ratusan-rumah-warga-pangkalpinang-kembali-terendam-banjir>

<sup>11</sup> <http://bangka.tribunnews.com/2017/01/20/begini-penampakan-banjir-di-kota-pangkalpinang-turun-hujan-warga-cemas>

<sup>12</sup> <http://bangka.tribunnews.com/2018/04/27/hujan-lebat-banjir-kembali-terjadi-di-jalan-pasar-pagi>

2005, the reclamation continues. The company spent more than USD 2 million to conserve 2000 hectares of mining land in 2008 and more than 1,600 hectares in 2009.

The main problem with reclamation is the destruction caused by TI. PT. Timah argues that the government is powerless with law regarding TI. Illegal mining clearly and openly degrades the land, even reclaimed land, but there is no one that can be pointed out as the main culprit to take responsibility. Furthermore, according to the 2010 report, the quantity of mining holes is uncountable. Indeed, this is related to mining operations without proper closures. This is what PT. Timah claimed to be the difference between legal mining and illegal tin digging. Also, mining activities must keep the community in proper health and provide convenience. Most TIs disturb the community with the sound of their machines, the tailings thrown into the sea, and the tin holes. They work without rules. The only regulation being that they take as much tin as they can.

#### *2.2.1. The forbidden area must [not] be protected*

The relation between mining and protected areas is how easily it is to define which is legal or which is not. When society was given access to mines on their own<sup>13</sup> in 2001, there were no limitations regarding location, whether it be in the forest, near the street or in the sea. Everyone had the same access. It might be the reason why today the illegal laborers seem ignorant when they are asked not to mine in protected areas. Although six years later, the regulation changed and TI-illegal mining became illegal, especially in protected areas and near public facilities. However, the operation of illegal mining is still unstoppable. This can be proven through reports from local newspapers published in the areas where illegal mining occurs. For example, in December of 2017, *Bangka Pos* reported that in Limbang Jaya, Sungailiat, Merawang, and Simpang Teritip, illegal miners are still digging for tin. The police officers warned all of the miners to stop all activities and clean up all the machines and pontoons. The location was forbidden, and as usual, the miners did not have legal permission to mine and dig up the tin holes. Therefore, it must be closed permanently.

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<sup>13</sup> It was supported by Local Regulation no. 6/2001 on General Mining Management, Regional Regulation no. 20/2001 on the Establishment and Arrangement of Strategic Trade in Strategic Products, Regulation no. 21/2001 on General Mining and Other Minerals Mining Taxes



### 2.3. *Is Nature doomed by humans?*

To elaborate more deeply on the human-environment relation in illegal mining, Steven Vogel's (2015) discussions on the definition of wilderness is interesting to apply in the analysis of how humans - miners; government; local community; institutions - influence the condition of Bangka as an island of tin. The discussion starts by defining wilderness as the natural part of the land that has been protected from human interference (Mckibben 1989). In my opinion, wilderness does not necessarily have to mean land that is completely untouched, but could be where nature is protected, and humans are supporting and supportive of this. The interaction between humans and wilderness has become unnatural, because all humanized practices seems irrelevant or meaningless even though they might bring a positive impact. So, the question becomes, will nature be destroyed by human action?

Connecting this to the research, through Vogel's discussion on the human and nature relationship, is quite interesting. The transformation of the landscape by human activities shows a pattern that proves there has been human influence. However, the relationship might be going in the wrong direction in which humans monopolize nature and change the wilderness into a landscape that is worse. One of the examples is what is happening on Bangka Island, where the tin industry operates with human dominance without ecological considerations. The humanized practice of illegal mining has not only transformed the land but also increased human dominance over the environment.

If the transformation leads to the destruction of the ecological landscape, can humans be said to be part of nature? Vogel questioning (2015).

“...how humans could have come to have this special ability to tear things out of their natural state. After all, aren't humans themselves natural? There's something oddly pre-Darwinian about the idea that human action removes objects from nature. The human species and its behaviours presumably evolved through the same sorts of biological processes as other species, and those processes were presumably mediated by the same sorts of chemical and physical forces. If this is so, it is unclear why the consequences of those behaviours deserve to be called “unnatural.”

In this statement, and in my opinion, it is unacceptable to consider humans unnatural because of their behaviours. Even if they destroy the environment, it is too careless to separate humans and the environment as two independent entities.

However, seeing how humans in Bangka have changed the landscape in a cruel and continuous way leads to uncertainty. Whether humans acknowledge that their actions always influence the environment, which leads to a better or worse condition, needs to be identified. Do humans know that mining without conservation, for example, is a way to ruin the ecosystem? If they know, why do they keep doing it? It might be what Vogel (*ibid*) stated as a contradicting perspective regarding nature and humans.

“...If nature is that which is independent from human beings, then human cannot be natural, nor does it make sense for them to rediscover their role as part of nature. On the other hand, if humans are part of nature, then the built environment would seem to be part of nature too.”

### *2.3.1. The media's construction of nature*

As stated before in the previous part, the *Bangka Pos* is not a completely neutral newspaper. The effort to give reports from the locations of tin mining might be a priority that can be seen from the availability of the illegal mining discussion in every series. It can be a strategy to attract readers, not more than the creation of a product to sell. But it can be a voice of a writer, a favour of their stance, a critique. If this is the case, then media has tried for a long time to construct the protection of nature and show that what illegal mining has done will ruin both Bangka Island and the lives of those in the community.

The unpopular discourse of environmental protection and how much more important it is than making money, is the insight that can be determined from reading all the articles related to illegal mining. I would say it is a way for activists and journalists who are concerned about environmental issues, to present generally to society that life is not only about money and consumption. It is also about protecting nature, as nature gives humans food, air to breathe, the ecosystem for humans and animals, etc. The good advice coming from Vogel, who was inspired by Marx, is that human activity is a way of building the land that they live in. It means that nature is just like humans, it is the “selves”.

### **Part 3. Illegal from the perspective of Government and Society**

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#### *3.1. Government's policy and the impacts*

It was started as “legally” illegal mining or it was referred to as unconventional mining by Regional no. 6/2001 as the implication of Law No.22/1999 regarding the decentralization of governance to regional regulation. In the year 2001, the regulation of unconventional mining became an issue in which society or groups could operate mining activities on their own. For about six years the access of mining was permitted to anyone (Indra A C 2014; Rahman, dkk 2011: 30). This was good news for Bangkanese after many decades, since before it was protected and being accessed only for national government, though inexorably the practice of illegal mining had occurred through secretive operations. But after the regulation occurred, it became a solution to illegal mining.

In 2007, a new regulation was decided on which brought more concern to the issue of tin availability and environmental protection. In 2014, the Ministry of Mineral and Energy Resources issued the Regulation of Minister No. 7/2014 regarding land reclamation after mining activity in order to assure environmental protection for lands that were once mines. In the Annual report PT. Timah 2015, the company presents their action of reclamation based on this regulation. However, the regulation did not really affect the industry in general when related to unconventional mining. The regulation might only work within the government to another government's institution, but not more than that.

##### *3.1.1. The Government matters. Is it matter?*

From the *Bangka Pos* newspaper, there is limited room to describe Government, especially the government's stand on the illegal mining matter. The majority of articles present interviews with the house representative officials, regional officials, etc., which all state a similar conclusion, that they support all the efforts from police officers, activists, and local communities to save the area from any illegal actions. However, this support has not stated explicitly in what way, the regional government will cooperate with officials to help solve the mining problem.

However, it is understandable to realize that the role of government is as a decision maker. After the regulation to protect areas from illegal mining came out (in 2007), there was no law nor agreement to support illegal mining. Unfortunately, the effect of the rule

is not adequate enough to cover the complicated problem of mining. The change in regulation to be more ecologically-friendly never really stopped the illegal tin mining. Though, in 2017 the Minister of Fisheries ordered the Governor of Bangka Belitung to stop all of the mining activities. This is related to a regulation that is still being discussed that would divide the island into a mining zone, fishery zone, and tourism zone. At the time the thesis was submitted, the law is still on the forum to accommodate all of the stakeholders - PT. Timah, fishers, local communities - which is not easy to handle. But it seems that the regulation might only cover the problem in the marine quarry which then raises the neglect from the local majority.

In my perspective, from trying to read from the analytical tools, no strict policy is successfully implemented to ban any illegal actions. The consequences of becoming unlawful miners do not matter. All of the activities are forbidden but are not risky, which might be one of the reasons that illegal mining is still in its prime.

### *3.1.2. Society in between*

On another side, the local community is standing in between, whether they believe that illegal mining causes disaster and threatens their lives, or on the other hand, that tin is the most available resource that allows people to easily gain money. In all the articles that were used in the research, all of the tin mines that were investigated by police officers, actually reported that local people who live in areas surrounding the mining area will suffer the most from the mining activity. In the report on illegal mines in Simpang Teritip, local community members report regularly to police when the miners go back to their work. As it stated in the previous part, the rejection of mines from society is not only because of land degradation but also due to the inconvenience of the sound from the mining machines.

But, society stands in between being friendly and not friendly to the illegal discussion. On one side, they feel that this illegal mining has threatened their lives by ruining the ecological landscape, with inappropriate methodology and miner attitudes. On the other side, they become so realistic by thinking that tin is the most critical material for Bangkanese. Additionally, many communities depend on being miners illegally for their livelihood, which partially influences the non-mining communities to adapt to the illegal mining.

It is stated in the Bangka Pos on 3rd of January, 2018 that in Rajuk, the community worries that illegal mining will destroy the water embankment and pollute the environment, especially the water. But the following statement states,

“The local community not fully neglect people to mines in their area (illegally). But it should be legal in method and regulation” said Apri, Regional Representatives officer.

Unfortunately, it is in fact stated in all the articles that were used, that mines operated by humans and local people without any supervision provide a challenge regarding how they could be legally operated. This means, the mining should be operated in a legal institution which has an adequate closure and mining system.

### 3.2. *Living in Denial*

When Norgaard, in the introduction of *Living in Denial* (2011), writes about the unusual weather in Bygdaby, Norway, I realized that to know that there is something unusual happening today, we must acknowledge the past and collect the memories of the conditions before now. As opposed to Bygdaby, where people realized that winter had gotten warmer, in Indonesia, it will be difficult for local people to measure whether the temperature is going up regularly or not. This is because it is a tropical country with only dry and wet seasons, where high temperatures are the usual condition. However, when the weather patterns become unpredictable, where rainfall is increasing and more prolonged than usual, and summer is always marked by drought, Indonesians must realize that something has changed.

I agree with the dimensions that Norgaard tried to implement regarding the physiology of climate apathy. She tried merely to say what if: (a) "If people only knew," and (b) "If people only cared." These two narratives provide an easy way to elaborate the idea of denial of climate change. "If people only knew" that summer and winter are becoming hotter and there have been severe flooding in some countries, then asking people to use less electricity and drive less is possible. (2011 p. 64). Otherwise, if it is only just known, it will not lead to emotions that influence people to react intensively. Furthermore, many psychologists have said that a knowledge of climate change leads to a lot of misconceptions and confusion (page 64-65). What Daniel Read and his co-authors point out (1994) is that there are two critical facts to understand climate change: first, it is a result of an increase in the concentration of

carbon dioxide in the earth's atmosphere; second, the main source of carbon dioxide is the use of fossil fuels, especially coal and oil (quoted by Norgaard 2011, p. 67). It is easy to understand for environmentalists, activists, academics and scholars, but what about the rest of the people in the world? Will they have the same way of seeing climate change? The knowledge of "if only people knew" will be different in Europe than Asia, in America than Africa; there will be no "one" understanding, so it will be more confusing if we see it outside climate change.

If people in Bangka only knew that mining actually ruins not only the environment, but also their future and threatens the future generations, will they become different regarding tin matters? I was wondering and repeatedly questioning myself on how I should explain the attitude of local people in a scientific model. This is not part of an uneducated community, though formal school is compulsory for Indonesians in general. Therefore, how the climate changes, and environment protection, are not popular in tin mining. Why people only think about gaining money as the way of living today, without considering that ecological degradation will lead to disaster, caused too many questions to emerge regarding the nature of local people's actions.

I was utterly feeling upset when the state and local governments decided to enact a new regulation that will divide Bangka into three areas: one for tourism, one for living, and one for mining. The idea came from the Ministry of Maritime Affairs and Fisheries, which believes that mining has destroyed the oceans in Bangka, so it will be a way to protect the sea from tailing, save the fish species, and help fisherman keep their jobs. However, this regulation planning is a kind of temporary solution which is unclear in concept and implementation. For me, the notion of a divided area means that unconventional mining is still acceptable but only in a specific area, and it does not make a difference in environmental destruction, deforestation, and the death of miners. I believe that government should decrease the high level of vulnerability by not being in denial.

So what do people get out of denial? We can start by feeling helplessness, scared, guilty and mad. Collect all the emotions that we have in order to gain consciousness, understand the reality, and change the way we think and act. We must not be arrogant by saying "all is well" and ignore the topic of climate change just because it is not comfortable to talk about (2011, p. 93). If we knew, we would act differently (2011, p. 64).

## **Conclusion**

The thesis came from the history on my own, from a place where I have a history. It came from Bangka Island that is not as famous as the tourist attractions in Bali, or the forests in Borneo. Yet, it has its own magic, which is Tin. One of the key materials in our phones, cars, and electronics. Bangka is one of the largest contributors to tin exporters for Indonesia and has developed the regional economy for decades. However, it is used to exploit the land, ruining the landscape.

What matter is, does not matter, is maybe a good conclusion to draw on in the final ending of the thesis. That economic factors are more dominant than ecological protection. People are tempted to be more radical in treating nature as consumption, as things that will make them alive. This is shown in the inconsistency of people in Bangka to ban illegal mining because it has helped many households, or even Bangka as a region, to increase their income.

But if they must suffer the same condition when the flood came in 2016, there will not be any arguments that state they want to have the same experience. So, how will this case be solved? The illegal mining is still there, with its controversy. The rejection still arises, even though it is the minority. And the solution is nowhere.

The lesson I learned from writing the thesis is how significant it is to be engaged in the subject of research, to be able to see how others see. When the researcher is going too far from the subject and lost the connection to the research, it is not easy to go back and restart the study as it was before. Additionally, using Discourse Analysis is a completely new world which I found so interesting, but complicated at the same time. I was not ready for the consequences that came up from the tools, which were written texts, images, and linguistics, instead of a human being that I can confirm with easily if confusion occurred.

Finally, I am aware that this thesis needs to develop in many directions where more time can be spent, resources used, and of course experience to successfully explain all the dimension clearly. However, I feel so grateful to have had such an experience which allowed me to learn the incredible pressure of writing and feel responsible to finish it as best as I can.

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