The impact of mining existence and activities of foreign and national oil companies in Dumai during the reformation period

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Abstract. The development of the City of Dumai became a city of oil trading, and refining increased the municipal government's financial income. But along with these developments, pollution due to mining and oil refining activities has also increased and endangered the health of Dumai City residents. This study analyzes pollution's causes, especially pollution due to waste processing and refining oil in the City of Dumai and the Government of the City of Dumai to overcome the various pollution that occurs. The data used to write the research results were obtained through literature studies in some university libraries in Pekanbaru, interviews with several residents who directly experienced the impact of pollution that occurred in Dumai City, as well as printed and online newspapers. The results of this study indicate that the level of air, water, soil, and noise pollution in Dumai City endangers the health of the population and has the potential to damage the environment and ecosystems, especially in the waters of Dumai. This research also shows that the Dumai City government through the Office of the Environment has not worked optimally in overcoming pollution in four different mediums so that the level of pollution from day to day is getting worse.

1. Introduction
It is undeniable that the presence of foreign oil companies in Riau, especially in the areas of Rumbai, Duri, and Dumai, has had many impacts on the surrounding community, both positive and negative, including the effects on environmental change. On the other hand, foreign and national oil companies realize that their continued existence in a region is also inseparable from the acceptance of the surrounding community. There should be a mutually beneficial relationship, especially towards the end of the New Order government. Towards the transition of government into the Reform Order, some Indonesian people began to ask various cases as a result of mining activities, which during the New Order government seemed taboo to protest. This is because of the existence of various mining industry activities in addition to providing employment opportunities for people who live around the mining industry area, they also experience the impact of several pollution caused. For the people who live around the oil processing and refining area in Tanjung Palas Sub-district, Dumai, the various pollutants they feel are at the level of endangering health. Various efforts by residents to mediate with the company have not found a solution. In addition, residents’ efforts to get the local government to facilitate talks with the company did not solve the problem. Some residents even reported the case to the Regional House of Representatives to the level of the Central House of Representatives in Jakarta. But these efforts have not yet found a solution that can provide peace to residents.
The existence of oil companies and the activities of the oil mining industry in Riau Province provides employment opportunities for residents around the mining area. The various types of jobs available at several private and national oil companies are opportunities for tertiary education graduates in Indonesia. The types of jobs related to technology development are expected to impact the technology transfer process. However, the expected technology transfer did not occur because, in general, foreign private companies only provided practical types of work in the field. The Dumai community, especially in the Tanjung Palas Sub District, experienced this condition where only a few of their children who had completed their education at a vocational-technical school could be accepted to work in oil companies operating in their area. On the other hand, oil processing and refining activities in the area they live in increasingly endanger their health, especially because of groundwater pollution.

This research was conducted in connection with the increasing number of environmental pollution due to waste disposal in mining activities in Riau, especially oil mining activities. Several oil mining companies, including the US oil mining company, Chevron, which operates in Duri and sends oil products through the port of Dumai, are expected to reduce production activities in 2019. However, at the same time, there are increasingly many cases of waste disposal that are not under applicable regulations and endanger the environment, including Chevron Company's waste. For this reason, this research was conducted to find out how pollution occurred in several areas, which are the locations of mining activities and the processing of mining products of oil mining companies, especially PT. Chevron Pacific Indonesia is included in the City of Dumai.

This study analyzes the causes of pollution and the impacts of oil refining and processing activities in Tanjung Palas Sub-District, Dumai City, which causes the communities around the refineries to feel a negative impact on their health. Why does pollution occur that is very dangerous for the community's health in Tanjung Palas Sub District, Dumai? What are the residents' efforts to overcome the pollution, and what social impacts are also felt by the community?

2. Method
The data used in this study were obtained from literature studies at several universities in Pekanbaru, especially the Riau University Library in Pekanbaru and the Central Statistics Agency of Dumai City. Field observations were conducted along the journey to Dumai from Pekanbaru, especially the oil mining area, which is an oil field owned by PT. Chevron Pacific Indonesia (PT. CPI). This company sends the oil they mine in several oil mining areas, including Minas and Duri, through oil pipes measuring up to 1 meter in diameter up to the Dumai region. The use of large pipes to deliver oil was very effective and arrived in Dumai in large quantities. Furthermore, these oils are stored in refineries in the city of Dumai for further transport by tankers and exported to several destination countries through the Strait of Malacca.

Research data were also obtained through interviews with residents in the Tanjung Palas Sub District, Dumai City. They experienced the direct effects of pollution from oil processing and refining, including pollution of groundwater in their environment. Based on field observations, the disposal of waste oil processing also looks incompatible with waste management standards that are harmful to the health of the surrounding community. Through interviews with the people who live around the oil refinery, it is also known that the community has often protested the pollution caused by industrial waste. Still, neither the company nor the Dumai City government seems to have handled it seriously.

Searching for research sources is also carried out by searching sources on the internet, especially online newspapers and other research results related to pollution in Dumai. An internet search for information found several articles published in scientific journals and some of them helped to analyze pollution matters in Dumai.

Various pollution caused by environmental pollution in mining areas, especially in Riau, has reached an alarming point. Several NGOs and universities, both inside and outside the Riau region, have conducted research in the Riau region, including in the City of Dumai. They generally take and measure objective research samples that cause pollution such as water and air quality, but do not
elaborate on the various experiences of people who have experienced the direct effects of pollution. This is why this research prioritizes interviews to get information directly from the public and find out their complaints.

The informants are residents who live close to the processing of oil mining products in Tanjung Palas. Their houses are only separated by walls and trenches with processing locations so that they are city residents who directly experience the effects of pollution. The information they provide is combined with field observations such as the color and smell of sewage water, awful environmental conditions, and processing machine noise. An important finding in field research and interviews with residents is that the efforts to solve various pollution problems have been made to the central government level, but various parties including the role of local government were very minimal and did not solve the problems.

3. Results and discussion

3.1. Dumai and the development of the oil refining industry

Geographically, Dumai City is located on the east coast of Sumatra Island and is protected by Rupat Island. This situation allows this city to develop into a port city as well as a trading city. Dumai, which then also functions as a port for storing and exporting oil from the Riau region to other regions and abroad in general, has indeed developed into a port and trade city. Based on data presented by the Central Statistics Agency (BPS) of Dumai City. Fifty percent of Dumai City's economy is sourced from these two sectors.

Besides functioning as a port and trade city, the development of Dumai City also leads to an industrial city. Currently, Dumai City has four industrial estates, namely Pelintung Industrial Estate, with an area of 5,084 hectares, Lubuk Gaung Industrial Estate with an area of 2,158 hectares, Patra Dock Integrated Industrial Zone with an area of 300 hectares and Bukit Kapur Industrial Estate with an area of 115 hectares. [1] The four industrial estates are located in the District of Medang Kampai, West Dumai, Sungai Sembilan, and Bukit Kapur. Dumai obtained the term as an oil mining city through a long process that began with the determination of the current Dumai region by Standard Oil California (SOCAL), which is now PT. Chevron Pacific Indonesia (CPI) as an alternative port area for industrial development. Through various programs that can maintain its presence in Riau, PT. CPI seeks to improve relations with the people of Riau, especially those living in the oil mining area. Based on various information that was collected by researchers both through interviews with local communities, including those working at PT. CPI and its subsidiaries, literature sources from various libraries and field observations, and brochures and leaflets published by PT. CPI, various programs have been launched and run by PT. CPI supports the improvement of the quality of life of surrounding communities, including efforts to improve human resources quality.

From the economic side, various developments carried out by the oil companies have proven to improve the economy of Dumai City. This is because various activities related to oil mining invite workers and other migrants to settle in Duri and Dumai, both only while working as employees and for those who later decide to settle in Dumai City. The arrival of workers and the presence of mining activities triggered various other informal forms of business in the form of goods and services such as hotels and inns, restaurant businesses, workshops, and different types of companies. These informal businesses have sprung up along with the growth of cities and highways on major roads, especially in the City of Duri and Dumai. This certainly has a positive impact on the local community who want to open a business in line with the increasing population that is used as a target consumer.

Besides PT. CPI, the State Oil Mining Company (Pertamina) also colored the development of the City of Dumai, especially with the construction of the Puteri Tujuh Refinery which processes SLC crude oil into Strained Run Naphta (SRN), kerosene, Automotive Diesel Oil (ADO), Solar, Low Sulfur Waxy Residue (LSWR) and Lube Base Oil (LBO), high-quality lubricants. Pertamina expanded this refinery in 1984 with a hydrocracker complex that produces new derivative products that vary while increasing productivity. The expansion of the refinery increases oil production between 170,000
barrels and 200,000 barrels per day. The expansion of the oil refinery itself requires a lot of human resources to return to Dumai City and stimulate other economic sectors. The development of economic activity in Dumai by itself increased the income of the local government from the tax sector due to grown goods and services transactions in Dumai City. This financial income is used as a source of income and development of the City of Dumai.

3.2. Oil refining activity: Between pollution and increased revenue of Dumai City
Various economic driving sectors and the potential that have been running in Dumai synergize with the existence and development of foreign and national oil company activities. Based on data explained by BPS in Dumai City, this region has the potential of human and natural resources as described above, but the existence and development of Dumai as a city at the district level cannot be separated from the increased activity of oil companies both foreign and national. The research team itself when visiting Dumai City concluded that city activity was dominated by activities carried out by oil companies, especially when viewed from the physical building of oil refineries that were so striking compared to other buildings especially in the area around the port.

The research continued with exploring some residential areas near the location of the oil refinery. The research team conducted interviews with the local community and managed to obtain significant information from several residents who were interviewed simultaneously. Based on interviews conducted by the research team with Mr. Anwar, Mrs. Ismiyati and Mrs. Samijah who are all three residents in the Tanjung Palas Sub District, Dumai, the level of waste pollution to the environment of the people who live around the oil refinery area has reached a point of endangering to health. Waste from oil processing plants that can be observed by the research team has polluted the settlements and made the stagnant water blacken and smell bad. Based on the information from the informants we interviewed, the condition has been going on for a long time, and it makes the groundwater they use for daily bathing feels itchy on the body. For water consumption, residents have to buy refill water themselves, which makes them incur additional costs because groundwater in their area is no longer suitable for consumption.

According to Ms. Ismiyati, born in Dumai in 1965, the Dumai area before it was opened as a refinery was heavily forested. Dumai population was still tiny, and in general, residents in the region lived from farming. Dumai began to be visited by many migrants, especially workers of foreign and national oil companies in 1985. The national oil company, Pertamina, recruited many employees from various walks of life classified by their skills and education level. For residents who want to work in oil companies and get the right types of work, they must have at least a high school level of education, especially vocational schools such as STM, because they already have the required expertise in the field. According to Ms. Ismiyati, the children of residents around her residence have only recently been accepted to work in oil companies and have been given training for six months.
According to some of the residents we interviewed included Mr. Anwar, Ms. Ismiyati and Mrs. Samijah, a national oil company namely Pertamina several years ago tried to maintain good relations with surrounding residents including providing sacrificial meat assistance at the Eid Al-Adha holiday and modest cash assistance by distributing envelopes containing 150 thousand rupiahs. [3] At that time, the environment around the oil refinery, including the condition of groundwater, was relatively good because it could still be used for washing clothes. But the situation then changed along with the construction of various new oil refineries as pollution increased. Also, new oil refineries are built relatively close to residential areas. At this point, the researcher has the conclusion that the proximity of the new oil refinery affects the intensity of pollution in addition to the possibility of handling factory waste that is not good from the Amdal side. This is because previously clean water wells are now relatively dirty. Residents feel itching when using the water for bathing, especially since the establishment of a company engaged in the Lube Base Oil (LBO) sector but were forced to continue using the groundwater for washing and bathing. Residents were even asked to fill out forms related to the presence of new oil refineries. According to Mr. Anwar, Ms. Ismiyati, and Ms. Samijah, the LBO company is a South Korean oil and gas company. In 2007 the Korean company named SK International Plc. Ltd signed cooperation with Pertamina in the LBO field. The two companies invested US $ 175 million with a composition of 60 percent from South Korean companies and 40 percent from Pertamina.[4]

The existence of the LBO exacerbates the condition of groundwater in residential areas. Conversely, some effects of the company's activities include engine noise at the oil refinery, making the residents decide to protest the oil refinery's presence because it is too close to residential areas. The negative impact of oil refineries' presence can also cause fires, especially after a refinery has blown up and fired. This certainly makes people worried because if there is a fire at an oil refinery, the fire can spread to residential areas that are very close. According to Ms. Ismiyati, based on regulations, at least the distance of oil and residential areas is 500 meters. However, as with the research team, the distance between the refinery and the closest house in Tanjung Palas Sub-district was only 10-15 meters. Demonstrations carried out by 200 residents who requested that refineries close to residential areas be dismantled were ignored by the authorities, especially companies. Instead, the officers who came, including members of the TNI and Polri as well as DPRD members, actually advised residents to stop the demonstration because there was no point. According to them, the existence of the national and foreign oil companies was supported by the government, therefore the demonstration against the
existence of the oil refinery was also against the government's decision. Even new oil refineries are being built.

Despite being advised by the authorities, residents continued to follow up on their desire that oil refineries adjacent to settlements be demolished for reforestation areas. Complaints from the community of Tanjung Palas Sub District related to groundwater conditions and other health problems such as cold coughs and the pungent aroma of LPG are reasons to ask that oil company employees living in the Bukit Datuk area are relatively clean from the impact of the presence of oil refineries, exchanging dwellings with residents who live in Tanjung Palas Sub District. This is intended so that they share in the inconvenience felt by residents related to the existence of oil refineries that are close to where they live.

The community formed a team to be sent to local and central government totaling 35 people. Previously, a delegation consisting of the mosque priest, LPMK, and Tanjung Palas leaders had been sent to meet with the Minister of Environment about 10 years ago. However, as explained by Ismiyati, residents felt betrayed by some of their envoys because apart from not producing anything, the failure of their envoys was more due to special agreements between them and Pertamina, who offered positions as contract employees. The efforts of citizens seemed to stop in place. According to Ms. Ismiyati, Pertamina and other oil companies' presence did not contribute significantly to the community's economy. This is because the oil refinery complex is closed and the washing of oil refineries is carried out approximately once a year. When washing oil refineries, companies usually hire people from outside the area to wash the refineries.

Another informant who provided a lot of information during the interview session in Dumai was Mr. Anwar. He is a native of Dumai, who was born and raised in Dumai. According to the information he gave, his father was one of those who cleared the forest for the area where the refineries are now only a few tens of meters from where he now lives. According to him, the Dumai region began to be crowded with migrants in the early 1970s, the decade in which Indonesia experienced an oil boom. The oil crisis that occurred due to the Arab countries' embargo on the United States and its allies who supported Israel in the Yom Kippur War that occurred in October 1973 made oil prices soar because oil available on the market was reduced. [5]. The reduced supply of oil from the Middle East caused the industrialized countries affected by the embargo to import large quantities of oil from other countries, including Indonesia. In Indonesia, the mining industry, especially oil, began to squirm after the government passed the Foreign Investment Law in 1967.

Pollution and discomfort due to noise from processing machines in oil refineries adjacent to residential areas have been reported to the local government and members of the Regional House of Representatives. However, complaints made through representatives of local community leaders to the central government in Jakarta have never received an answer, so it has continued until now. According to informants, some community leaders who were sent to Jakarta after returning to Dumai were even more unclear and were suspected of having received compensation, which made them no longer voice public complaints that were adversely affected by activities at oil refineries.

The crucial point of the environmental pollution problem in the city of Dumai is the seriousness of the company in dealing with industrial waste processing and refining oil. Unprofessional waste handling has an impact on pollution, which harms the surrounding community. In addition to the people living in the Tanjung Palas Kelurahan, pollution is also felt by the communities around the Pelindo land due to the dumping of trucks and workers washing water into the ditches. Pollution that occurred in the waters of Dumai made fishes in polluted areas dangerous to be consumed. Test results in the laboratory show that fish including Gulama fish in Dumai waters have been contaminated by several heavy metals namely Cd, Cu, Pb, and Zn. [6]

3.3. Dumai City government policy against pollution
As a city famous for its oil refining industry, Dumai has also been known for its high pollution in almost all mediums, namely water, air, sound, and soil pollution. The Dumai City Government has worked hard to overcome these pollutions through the Dumai City Environment Office. Throughout 2014 the Dumai City Environment Office has handled various environmental pollution cases caused by human activities, especially various pollution carried out by multiple companies, especially mining companies. Several companies that are polluters commit deliberate pollution because they do not analyze environmental impacts on company waste. According to the Head of the Environment Office Bambang Surianto, until 2014, all environmental pollution cases in the City of Dumai were dominated by corporate mistakes, both intentional and unintentional. The chemicals that pollute the environment are generally a side effect of human activities in the processing of mining materials. In 2014 all four of the pollution was represented by PT. Kuala Lumpur Kempong, which pollutes the sound due to machine activity, water pollution carried out by PT. Inti Benua Perkasatama and air pollution that is the powder that comes from the activities of companies in the Pelindo region.

Although the quality and quantity of pollution in Dumai City has increased in almost all mediums, the Dumai City Environment Office cannot overcome the pollution or take action against the companies that do it. This is because the institution is only an Office and not yet an Agency. In addition, the scope of duties and functions of the Office of the Environment is not broad enough so that the authority of this institution is still limited. If there are cases of pollution on a large scale, the Dumai City Environment Office still has to ask for guidance and assistance from the Riau Provincial Environment Agency. The limitations of the Dumai City Environmental Office’s main tasks and functions in carrying out their duties make this office seem slow in handling various pollution cases because this office still has to wait for further instructions from the Riau Provincial Environment Agency and the Central Ministry of the Environment in Jakarta. [7]

In addition to the limited authority of the Dumai City Environment Office, the weakness of city government officials and law enforcement is also one of the factors why pollution caused by company waste cannot be overcome. When there was a Crude Palm Oil (CPO) spill in the Dumai Port area, the Dumai City Environment Office officers only supervised routine documents but did not inspect the scene. One Non-Government Organization (NGO), the Indonesian Forum for the Environment (WALHI), protested against the indecisiveness of the Dumai City Environment Office, and the absence of sanctions.

Another limitation of the Dumai City Environment Office is the limited means of vehicles, laboratories, and funds. Vehicles are very important for the mobility of officers especially in difficult areas including waters. The absence of a vehicle makes the officers often not check pollution cases to the location so that samples to be tested in the laboratory become very limited. Even if a pollution sample has been obtained, the existence of a suitable laboratory for testing the sample is also not yet owned by the Dumai City Environment Office. The presence of an accredited laboratory for testing pollution samples in Dumai City is very urgent. Another limitation is the Dumai City Environment Office budget from the Regional Budget, which is still minimal. This condition also makes the Dumai City Environment Office unable to develop programs to tackle environmental pollution in Dumai City.

The research shows that the pollution that occurs is not solely due to the lack of precise coordination between the City Government especially the office of the Environment and mining companies, but also because of the lack of central government concern. Riau region with abundant mining resources and adequate infrastructure has provided income for the central and regional governments. On the other hand, the people, especially in Dumai City, are experiencing the effects of water, air, and soil pollution which are very dangerous to their health. Various community efforts and the failure of negotiations to settle the waste processing of oil mining products show that pollution will become more widespread and dangerous. The people who live around the processing location of oil mining products also do not get the maximum benefit related to the activities of various mining companies.

4. Conclusion
Environmental pollution in the city of Dumai in four different mediums, namely water, soil, air, and sound pollution, if not handled, quickly and adequately will damage the health of the city residents. This is because, in some cases such as groundwater pollution in the Tanjung Palas Sub District in the City of Dumai and around the port area. The people who live in these two areas have experienced direct health problems, especially skin diseases and foul odors from oil processing waste from oil refineries that are not far from their settlements. The community's inability to deal with the company so that the company is more responsible in handling waste so as not to pollute the environment makes the level of public health around the refinery area gradually decrease. Economically, the community must also spend more money to buy clean water for drinking purposes because the existing groundwater has been polluted by waste.

The community's powerlessness in dealing with pollution in the City of Dumai has rightly received support from the Government of the City of Dumai. The Dumai City Government must empower the Dumai City Environment Office by increasing its authority, especially in cracking down on companies that do not comply with the Environmental Impact Assessment regulations because it will endanger the health of the surrounding community and damage the environment. Also, communication with the Riau Provincial Environment Agency and the Ministry of the Environment in Jakarta must be more effective because there are many mining and mining industry activities in Riau Province. Mining, processing, and refining activities are vulnerable to a lot of waste that is discharged irresponsibly. Waste disposal that is not accompanied by handling pollution following applicable standards and regulations will endanger the environment, especially groundwater and rivers. Various cases of river pollution in Riau due to industrial waste have even damaged the ecosystem and the food chain as well as causing various diseases.

Various impacts of the existence of mining products processing activities in Tanjung Palas Sub-district, Dumai City, and Riau Province have proven to be a source of pollution harmful to health. Various evidence of pollution, especially the disposal of waste in the trenches around the homes of residents in the Tanjung Palas Sub District is clearly visible and is a reason for the community to hold the company accountable. Nevertheless, the population's efforts to improve environmental conditions did not receive a positive response to the central government level. It shows that the government's concern for environmental problems is still very minimal.

The Dumai City Government should conduct research involving various elements of society, including researchers from universities and companies operating in Dumai to examine the level of pollution in Dumai and evaluate it. Oil spills in Dumai waters also worsen environmental conditions in Dumai and this, if left unchecked, will further damage the ecosystem. The Dumai City Government should think about the utilization of CSR funds of various companies operating in Dumai so that they are not only used for economic purposes but also the benefit of nature conservation and the availability of clean groundwater.

References
[1] Peraturan Daerah Provinsi Riau Nomor 9 Tahun 2018 Tentang Rencana Pembangunan Daerah Industri Provinsi Riau 2018-2038. https://ppid.riau.go.id/download/19/1543366590rip gabungan-fix.pdf
[2] Dumas Sari Warna 1984 Visualisasi Hasil Pembangunan Orde Baru Pelita I, Pelita II, Pelita III, Volume 2 (Jakarta, Departemen Sosial RI) pp 96
[3] Interview with Mr. Anwar, Mrs. Ismiyati and Mrs. Samijah, in Tanjung Palas Sub District, Dumai City, Riau Province, August 2016.
[4] Pertamina-SK Korsel Teken Kerjasama LBO Senilai US$ 175 Jt, accessed on https://finance.detik.com/berita-ekonomi-bisnis/d-739467/pertamina-sk-korsel-teken-kerjasama lbo-senilai-us-175-jt
[5] Kumaraswamy P R (Ed) 2013 Revisiting The Yom Kippur War Israeli History, Politics and Society, (New York, Routledge) pp 190
[6] Siregar, Yusni I, John E 2010 Faktor Konsentrasi Pb, Cd, Cu, Ni, Zn Dalam Sedimen Perairan Pesisir Kota Dumai, *Maspari Journal* 1 pp 1-10

[7] Listiyani, Novita, Hasanuddin 2020 Kebijakan Pemerintah Kota Dumai Dalam Pengendalian Pencemaran Lingkungan di Kawasan Pelabuhan Indonesia I Cabang Dumai Tahun 2013 (Studi Pada Kantor Lingkungan Hidup Kota Dumai). *Jurnal Online Mahasiswa (JOM) Bidang Ilmu Sosial dan Ilmu Politik* 7