



Case Study

Unlicensed gold mining and agricultural land in Kuantan Singingi district province of Riau, Indonesia

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Abstract

Unlicensed gold mining are rampant in government Kuantan Singingi District, Riau Province. People culprit in general Unlicensed gold mining areas there are in many places and irregular, there is on the banks of rivers, water bodies, lakes and most occur on land under palm oil and rubber plantations productive in the watershed. Gold mining unauthorized changes to the landscape provides both the contour of the mainland, as well as the flow of streams and watersheds, degrading inventory lands for agriculture, affecting the region's economy. This research is important to (1) determine how the relationship unlicensed gold mining government with the availability of land, agricultural land prices and environmental damage. Is there a policy that is able to provide a solution, and how to model the management of mining activities that benefit the state through government-people relationship for sustainable agricultural development). The study was conducted in the province of Riau, Kuantan Singingi district. This research used surveys, case studies and analysis of secondary data. To test the hypothesis used Chi square test. To ensure influence relationships between variables used multiple logistic regression with SPSS 17.0 for Windows. The value of P is $0.015 < 0.05$ P value $0.015 < 0.05$, meaning there is a convincing relationship between unlicensed gold mining and the sustainability of the existence of the soil for agriculture. Flourishing mining activity is increasingly narrow availability of land for agriculture. Unlicensed gold mining relationship with changes in aspects of environmental damage such as changes in order flow and water resources, and reserves or water catchment areas found p value of 0.014 . P value $0.014 < 0.05$, meaning that there is a significant correlation between unlicensed mining activities with environmental damage (change of order flow and water resources). While the value of P is 0.02 , this relationship is significant. P value of 0.020 , meaning that a significant relationship, for $0.02 < 0.05$, in this case an unauthorized gold mining is done by cultivating lands that are estimated to contain potential reserves of gold ore, so the demand for land prices higher than the land deals, the sale value of agricultural land into soaring to mine the ore. The government has not provided a solution that is beneficial to all parties of this gold mining management. None issued local regulations to make the arrangement against these illegal mining activities. Recommendations for Kuantan Singingi District Government shall establish a mining region, without gold mining concessions in the area of mining in the territory of each district should only be done by locals. For miners who mine without using the engine must be permission from the local district head and had to pay $.0,5\%$ of fruition per 6 months. For miners who mine using hired machinery must obtain permission from the District and are subject to the rent as much as 70% SVTO per meter per year. Miners are also required to create borders at their own expense. For those who do mining without a license is punishable by one year imprisonment and a fine of Rp 500 million (Reconstruction Model Attached).

Keywords: Reconstruction, gold mining, colonial model.

Introduction

Riau Province is located in the central region of the island of Sumatera, Riau province before a region called Central Sumatera. Riau Province also borders the east coast of Sumatera Island that deal directly with the international community such as Malaysia, Singapore, Brunei and Thailand.

Riau Province has had an agrarian conditions such as upland forests, oceans and forests, peat swamps naturally. The agrarian aspect provides Riau province's natural wealth that has been known since the Dutch colonial era until the time of

independence. The potential such as petroleum, coal up to the gold ore which is a precious metal. Natural wealth of the mine material spread across several areas such as petroleum Riau province are in the district of Bengkalis and Siak district. Coal is found in Indragiri Hulu reGENCY, while the potential for gold ore exceptional contained in Kuantan Singingi district known as the Golden Logas.

The state constitution of the State in 1945 to ensure that the state contained in article 33 paragraph 3 of the state's regulatory power over water resources, earth resources and all available wealth in it to achieve the prosperity of people. Article 33 of the

1945 Constitution serves as the basis for Indonesian Economy¹. Article 33, paragraph 3 of the laws of the State of that, there are two structural aspects which have a horizontal relationship that benefit the country and people. The first controlled by the state is the basis for the concept of State Tenure, meaning that the decision confirms that the natural resources contained within the earth, water and space regulated by law; the grace of Almighty God shall be preserved and developed ability to remain can be a source of life support for humans, other living creatures, particularly those in the region concerned for the survival and improved quality of life and well-being in the present and in the coming time.

Based on the concept of state authority and for public welfare show further in Act No. 5 of 1960 on the Basic Regulation of Agrarian or better known as the Law of Agrariani, that the government in control of the earth, water and water space and natural riches contained at the highest level is controlled by the state, as an organization of power of all people². There in governing the supply, allocation and use of land; for the purposes of the state; for the purposes of the centers of community life, social, cultural and other welfare; to develop industry, transmigration and mining as a gift from God Almighty, is the national wealth of the Indonesian people and is therefore controlled and used by the State for the greatest prosperity of the people³, this principle is contained in Law Number 11 of 1967. In the region of the New Order regime which is the order of implementation of Indonesia's development under the rule of former President Soeharto, who ended up the creation of Reform Order, exploitation and exploration of natural resources and mining adhering to a development paradigm that considers that natural resources only as a source of income rather than as a source of capital, Exploitation of natural resources is only directed at achieving economic growth rate solely with the economic logic of the group. This condition is still relatively successfully achieve sufficient economic growth to development, the logic of environmental sustainability as a form of sustainable development.

However, natural resource management, which is expected to benefit the majority of the population of Indonesia, the fact is not in accordance with the expectations of the people as the intent and purpose of the 1945 Constitution of the State to provide even distribution of the results of such development the people.

Prosperity as a result of the mining law is only for elites, but impoverish many people. Equitable development gap between the owners of capital is very high with commoners. These are the conditions that gave rise to the constitutional reform movement in Indonesia in May 1998. Reform order has spawned law number 32 Year 2004 on regional government, and government regulation No. 25 year 2000 regarding government authority and provincial authority as an autonomous region, enabling the public to have access to resources and their

environment. Thus the emergence of the gold mining unlicensed activity is the exploration of mineral resources (gold) from the earth cultivated by community groups without official permission from the government to do business mining peoples. The miners that have not licensed very difficult to inevitable, because it is one form of public access to natural resources and their environment that during Soeharto's authoritarian rule only provide great benefits to the few. While mining is done by digging the earth will be in contact with the human aspect, technology and nature or environment must obtain permission from the government, as mentioned "every mining minerals belonging to the strategic minerals and class of minerals vital, can only be implemented if the advance has been getting mining authority"⁴.

Unlicensed gold mining communities in general do with the limitations of science and technologies, manage their own mineral resources of gold are there to improve the lives and economic group only. While the management and utilization of natural resources required mining space management approach that addressed holistically integrated to consider four essential aspects, namely, the aspect of growth, aspects of equity, environmental aspects, and aspects of conservation. Such an approach requires awareness that any mining activity would produce beneficial effects at the same detrimental impact on human beings and general and local communities, especially if not managed professionally and responsibly.

Unlicensed gold mining had not put the land as an important production factor, while the surface of the earth or land with gold potential are limited, even a surface area of overlap with other development designation including agriculture. The result of the competition and resources that exist in the different sectors and fellow stakeholders in the same sector.

Since the existence of unlicensed gold mining in the area of research, there is a change in the landscape, whether it contours the mainland, as well as the flow of streams and watersheds, has emerged physical identifier erosion that degrades the inventory lands for agriculture.



Figure-1: Changes in land surface shape, soil contours and river basins due to unlicensed mining⁵.

The instrument of government policy in the area to reduce the number of people who engage in illegal mining inadequate. No policy instrument even if has not been able to integrate the interests of society with the state's interests in this matter. Consequently unlicensed gold mining is continuing in the wild and even improved in quality, therefore, this study is important to uncover and provide profitable solutions to the state or the government and the people who must each contribute benefits in accordance with the functions of the various aspects of the development of the region.

To be answered from this study was the extent of unlicensed gold mining contributes to an aspect of regional economic development in the mining areas of Riau province ?. How to price increases of agricultural lands are used, or adjacent to mining operations without such permission?; Do policies at the local government level preexisting able to accommodate the problems mentioned above? If not, such as whether the model construction policies that can make a real contribution to the development of the region; Improvement of the regional economy, improving people's welfare as a whole, and maintain the availability and sustainability agricultural land?.

Based on the above authors assumed that; There is no positive contribution of gold mining activities are not licensed by the regional development aspects (economic development area, the overall people's welfare). Not authorized gold mining has caused a rise in price of land which was originally for agriculture, is unfortunate there is no policy at the local government level to accommodate the interests of the parties to the complex problems of illegal so we need a new model design.

This study aims to i. determine how the relationship unlicensed gold mining from the government with the availability of land, agricultural land prices and environmental damage. ii. analyze existing policies, are able to provide solutions; iii. then how to model the management of mining activities that benefit the state through government-people relationship for sustainable agricultural development.

This research is expected to be useful to contribute to the knowledge and understanding of the management of mining development in the interaction among subjects therein do artisanal mining; How to solve the problem of development today are based on mining. management of mining between subjects; land ownership by the people, control of natural resources in it by the state, then together in a system of development to create prosperity, justice and prosperity.

Methodology

This research used combination surveys, case studies and analysis of secondary data. Survey research is research that takes a sample of the population. Conducted to find the facts and analyzing the reality of unlicensed gold mining in Kuantan Singingi region and its impact on the increase in the selling

price of the land (soil) and environmental damage mining system. Secondary data analysis studies, using descriptive and normative for the second objective is to analyze the unlicensed gold mining policy to find out how the concept or model of policy instruments that have been done. Secondary data analysis is also associated with other variables that will be revealed. This will be very useful as a comparison and supporting research. Further developing the model management of mining activities that contribute to the economy of the people and the government as well as the preservation of the environment.

First phase of research was conducted in Kuantan Singingi region-Riau Province, was chosen for the gold mining activities without permission it is most often committed by people in Kuantan Singingi district, actual mining activities are a long way even since the colonial era with its still modest and exploitation which still is familial without excessive exploration and the condition is inversely proportional to the reality that when this happens. Object of research; The object of research is that people do gold mining business is not licensed, either administered alone or working for someone else as the owner of capital. Population and Sample; Sampling was done by incidental sampling.

Populasi in this study is a whole group of people who perform unlicensed gold mining activities. Sample in this research are set according to the needs on the ground and so raised the uniformity of the sample it was determined a sample of 35 people conducting illegal gold mining both the owners of capital and workers and 10 people from the group of the general public who are not doing mining business and 5 people from the government. So the total accidental sample totaling 50 samples. Testing the hypothesis To test the hypothesis 1 is used Kuadrat Chi (chi square test) on the influence or dependence. Testing hypotheses 2 and 3 using computer assistance SPSS 11.0 for windows. To test the correlation coefficient was used a significance level of 5%. If the correlation value arithmetic > correlation table then the question has validity. The significance of the influence of free variable partially tested using the Test-T, while the significance of the influence of independent variables simultaneously used Test-F⁶.

In the second phase, the study aims to analyze government policies Regency Kuantan Singingi related activities on gold mining without licence with using basic dimension from the perspective of economic development system that integrates the interests of the backward (the people) and the government as a system co-exist and complement each other.

The data collected are primary and secondary data. Secondary data obtained from publications Kuantan Singingi District government agencies (*The Department of Mines and Energy*), BPS Regency Kuantan Singingi, research reports and publication of government agencies in Kuantan Singingi Regency. The primary data obtained through interviews with key informants, by the community, Kuantan Singingi Regency

Government (in this case the unit of work in mining and energy) and a group of miners themselves as well as academics who are experts on mining issues. Phase three of the study, specifically to answer the third objective is to find a concept/model management of artisanal mining folk balanced between the Government and people through the steps of: i. find the element and dimension of the rights and functions of government on mining policy; ii. find the element and dimension of the rights and functions of the People in the community mining system.

Results and discussion

In particular in the economic dimension of gold mining not licensed, do not contribute positively to the economic development of the region in this area of research, but only affect the individual communities both mining and non mining, but as a provider of tools-and infrastructures mining, such as macineproviders, fuel providers and that too is a closed market, so that unlicensed gold mining a positive effect on improving economic income households miners and merchants provider of mining.

Gold mining richness notauthorized dredge area and no real contribution to the local governments because they are not recorded and wild. Local government and the authorities are not able to stop the activities of society's gold miners not licensed.

Mining operations impact on the demand of land for mining. The amount of land that meet the criteria for mining is very limited. While in high demand on the other hand cause land prices to rise so quickly and irrational. Soils that exist in rural districts generally Kuantan Singingi land and land for agriculture. As a result more and more widespread unlicensed gold mining diminishing land for agriculture.



Picture-2: The activities of society's gold miners not licensed in Palm Plantations⁵.

Unlicensed gold mining also have a broad impact on the availability of natural resources and the environment systemically. Soil or land after mining is irreversible fertility in a short time. The use of mercury in gold mining process to separate with other compounds will affect the chain to the flora and fauna, unlicensed gold mining has changed the natural order of water resources such as rivers and lakes or swamps in the mining areas.



Picture-3: The environment damage as impact activities of society's gold miners not licensed⁵.

Gold mining of the phenomenon can be concluded: Activities of society's gold miners not licensed has deviated from the provisions of Article 33 UUD 1945, BAL, and the Law on Environment. Gold miners not licensed not have hurt the country in the form of property theft because the country without government permission and did not contribute significantly to walfare people. Distribution of respondents by research variables to be tested as shown in Table-1.

Table-1: Frequency Distribution of respondents by independent and dependent variables⁷.

Variables	Category	Frequency (50)	Percentage (%)
X (on mining activities)	Active in mining	35	70
	Inactive in mining	15	30
Y1 (price increase land)	Up	43	86
	Not rise	7	14
Y2 (agricultural land availability)	Diminish	23	46
	Not reduced	27	54
Y3 (environmental damage)	Broken	30	60
	Not broken	20	40

Based on the Table-1, it shows that the majority of respondents were active as gold miners and 30%of respondents who are not active in mining above data also showed that the majority (86%) respondents said that land prices rose in relation to the mining activities are not licensed, and 14% of respondents stated that the land price does not rise. In the table above there are also data on the majority (54%) respondents, that land is not diminished by the activities mining and 46% of respondents stated that the land was reduced by mining activity. Then the data in the table shows that the majority (60%) respondents said that activities damaging to the environment and 40% of respondents stated

that mining not damage the environment. The results of the bivariate test between independent variables and the dependent variable of research using chi-square test is described as follows:

Activity Relationships in Goldmining (X) with the increase in the price of land (Y1): Analysis of the relationship between activity in miners (X) with the increase in land prices (Y1) using the chi square test by building a hypothesis: i. H0: There is no relationship between activity in miners and increase in land prices. ii. Ha: There is a relationship between activity in unlicensed gold mining with rising land prices Deduction is determined by looking at the *p* value is described as follows: i. If the *p* value > 0.05 of course H0 is accepted, ii. If the *p* value < 0.05 of course H0 is rejected.

The results of the analysis of the relationship the relationship between mining activity in an unauthorized price increases land (Y1) can be seen in the following Table-2.

The Table-2 shows that the majority (94%) people who do not licensed mining activities declared land price rises. The above table also shows that the majority (67%) people who are not active in mining declared land price does not rise. Caused 2X2 table, with little expectation value of 5, then be adopted is the value of Fisher's Exact Test, *p* value 0.020 is found, it means a significant relationship, for 0.02 < 0.05. Therefore concluded H0 rejected and Ha accepted, meaning that there is a significant correlation between the activity in mining with the increase in land prices.

Illegal Activity Relation with Agricultural Land availability: Analysis of the relationship between the activity of gold mining

(X) with the availability of agricultural land using chi square test by building hypotheses: H0: There is no relationship between activity Mining (X) with the availability of agricultural land Ha: There is a relationship between the activity of illegal (X) with the availability of agricultural land. The relationship between variable the activity of illegal (X) with the availability of agricultural land can be seen in the following Table-3.

The Table-4 shows that the majority (66%) of respondents are active as employees crates declared agricultural land is not diminished by the activities that they do. The above table also shows that the majority (73%) of respondents who are not active at *p* declared agricultural land decreases due to gold mining activities are not licensed. Caused 2X2 table, with little expectation value of 5, then using the test formulation F Test, then *p* value of 0.015 was found. *P* value 0.015 < 0.05, thus concluded that H0 rejected and Ha accepted, meaning that there is a significant relationship between mining activities with the availability of land.

Gold mining activity relationships not licensed by the Environmental damage: Analysis of the relationship between gold mining activities were not licensed (X) to the environmental damages using chi square test by building hypotheses: i. H0: There is no correlation between the gold mining activities are not licensed by the environmental damage; Ha: There is a relationship between gold mining activities are not licensed by the environmental damage.

The results of the analysis of the relationship of gold mining activities are not licensed by the environmental damage can be seen in the following Table-4.

Table-2: Activities in illegal mining, land price increase⁸.

Variable	Land Price				Total		P value
	Up		Not UP		Total		
	N	%	N	%	N	%	
The level of activity in the mining unlicensed							
Active in mining	33	94	2	6	35	100	0,020
In Active in mining	10	67	5	33	15	100	
A mount	43	86	7	14	50	100	

Table-3: Cross tabel activity illegal mining, land agricultur stock⁹.

Variables	availability of land				Total		P value
	Diminish		Not reduced		Total		
	N	%	N	%	N	%	
The level of activity in the mining unlicensed							
Active in mining	12	34	23	66	35	100	0,015
In active in mining	11	73	4	27	15	100	
Amount	23	46	27	54	50	100	

The Table-4 shows 51% of respondents are active in the states of illegal gold mining no licensed does not damage the environment. The above table also shows that the majority of respondents were not active in mining activities environmentally destructive mining states. Caused 2X2 table, with little expectation value of 5, then used is the value of fisher's exact Test, p value of 0.014 was found. P value 0.014 <0.05, thus concluded that H0 rejected and Ha accepted, meaning that there is a significant relationship between mining activities with environmental damage.

Policy Solutions: Policies can be defined as government policy, which is a series of actions that have government, includes objectives to be achieved and the methods to achieve the goal of and in this study the policy in question is the management policy of gold mining activities are not licensed in the Kuantan Singingiregency-province Riau. As "the aspect of environment all protection is reinforced by the need for EIA, reclamation and management of post-mining including funding guarantee, then not only the holder of mining permit is obliged to carry out the development of the region and the community, local

governments are required to develop programs for regional development and the community around the mine.

Then the local government; also have not implemented carefully government regulation No. 51 of 1993 on environmental impact assessment Article 2 (1) states; Business or activity that is expected to have significant impacts on the environment include: The conversion of landforms and landscapes; Natural resource exploitation of renewable and non-renewable; processes and activities that can potentially lead to waste, damage and decline in the utilization of natural resources; The activities which may affect the social, cultural environment; The processes which may affect the conservation of the area; conservation of natural resources and cultural heritage; Instroduksi species of plants, species of animals and microorganisms; The used of biological, non-biological materials; The application of technologies predicted to have great potential for; Affect the environment; Activities that have a high risk and affect the defense of the country.

Table-4: Activities In unlicensed gold mining environmental damage¹⁰.

Variable	Environmental damage				Total		P value
	damaged		undamaged		N	%	
	N	%	N	%			
The level of activity in the mining unlicensed							
Active in Mining	17	49	18	51	35	100	0,014
In active in mining	13	87	2	13	15	100	
A mount	30	60	20	40	50	100	

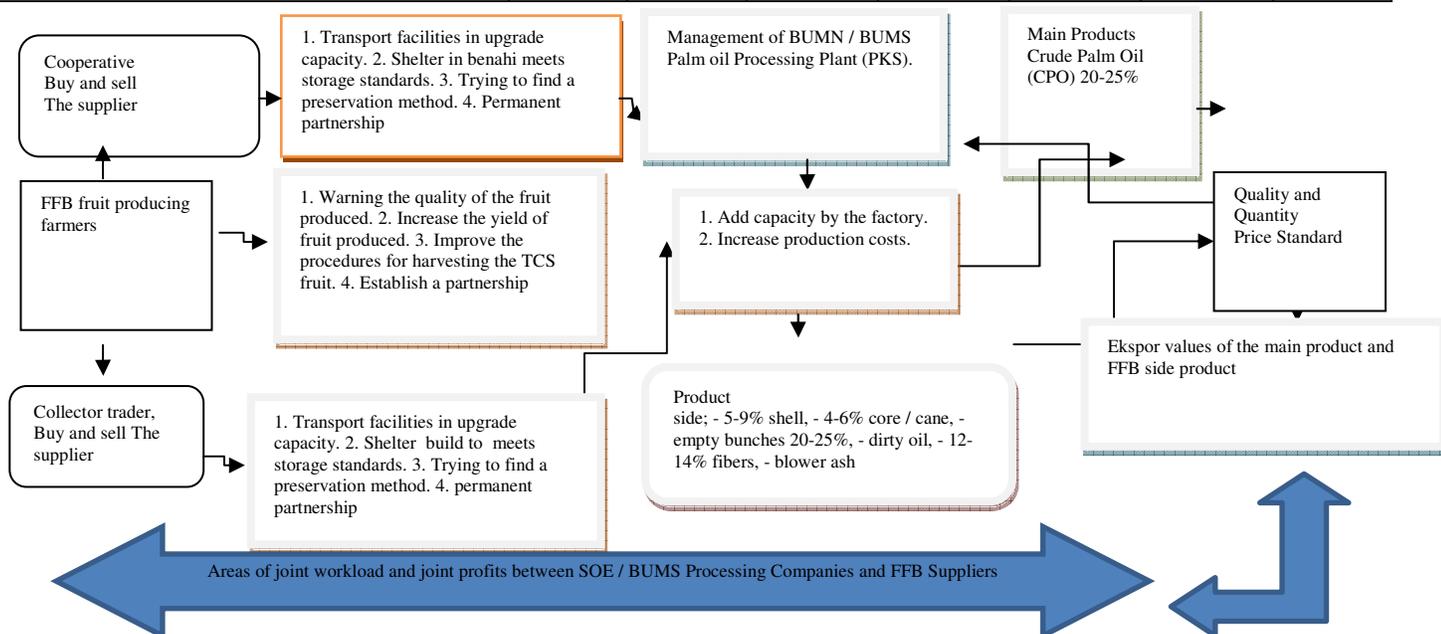


Figure-1: Alternative Model I: Alternative Model of mining land management that provides sharia benefits between the Kuantan Singingi district government and the community in general.

Turns Kuantan Singingi district government has not provided concrete and clear solutions to implement existing policies to unlicensed miners from the government in the management of mining, the miners because they are not authorized. Only the government to conduct raids against gold mining and provide appeal that mining should not be lair. But none issued local regulations to make the arrangement against this illegal mining.

The implications of Alternative I models can be explained as follows: i. Unlicensed Gold Miners may not come from residents outside certain villages. ii. Unlicensed Gold Miners must group and become a village-owned business. iii. Miners are formalized and become business people in certain villages, iv. Miners who do not comply are subject to sanctions that are prepared on the basis of an agreement Public.

Conclusion

Results of reality gold mining not licensed in Kuantan Singingi Regency its impact on the increase in the selling price of the land (soil) and environmental damage mining, Gold mining activity relationships not licensed by the availability of farmland found p value of 0.015. P value $0.015 < 0.05$, thus concluded that there is a significant relationship between gold mining activities by the availability of land Farms, flourishing gold mining activity more narrow supply of land for agriculture.

Relationships mining without licensed to change aspects of the environment such as changes in flow and procedures found or P value of 0.014. P value $0.014 < 0.05$, meaning that there is a significant correlation between the gold mining activities are not licensed by the environmental damage. Meanwhile relations unlicensed gold mining with the increase of agricultural land to be found p value of 0.020, meaning that a significant relationship, for $0.02 < 0.05$.

The Kuantan Singingi Regency Government must establish a mining area, with the model of Gold Mining management in the

district area by building as many village-owned enterprises as a model of community empowerment in the mining sector to ensure the economic sustainability of the people and sustainability of the existence of agricultural lands.

Conclusion

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