Research Article

The effects of the exploitation of natural resources towards risk society construction in Southeast Sulawesi Province, Indonesia

Ambo Upe1*, Darmawan Salman2, Andi Agustang3

1 Department of Sociology, Faculty of Social and Political Science, Halu Oleo University, Kambu, Kendari City, South East Sulawesi, Indonesia
2 Department of Rural Sociology, Faculty of Agricultural Science, Hasanuddin University, Jl. Perintis Kemerdekaan KM.10, Kota Makassar City, South Sulawesi, Indonesia
3 Department of Sociology, Faculty of Social Science, Makassar State University, Tidung, Rappocini, Makassar City, South Sulawesi, Indonesia

*corresponding author: ambo.upe@uho.ac.id

Received 10 October 2018, Accepted 11 November 2018

Abstract: Exploitation of mining everywhere including gold mining in Bombana Regency, Southeast Sulawesi basically always showed two dilemmatic things. On the one hand, it was expected to have a positive contribution in increasing social welfare. On the other hand, it also aroused the risk society. This research aimed to express a variety of risks that happened as the effect of gold mining exploitation in Bombana Regency. This research used qualitative research, a variant case study that was meant to describe profoundly and holistically the effect caused by the mining exploitation. These findings showed that the exploitation of gold mining in Bombana Regency has an impact on the aspect of human and environmental life, namely ecological and socio-economic effects. The above-mentioned complexity of effect constructed a condition called risk society, covering the risk of socio-economic and natural material structures.

Keywords: exploitation, mining, risk society, Southeast Sulawesi


Introduction

Indonesia is known as a country that is very rich in its natural resources such as petroleum, mineral, and coal. The above-mentioned resources potential is a very strategic sector to quicken the rate of national and regional development through country's income increasement, job providing, industry development, and trading. The final target that is expected from the natural resources mentioned above is to enhance the welfare and prosperity of the people as the mandate of the Constitution in Part 33 (Chapter 3) Constitution of 1945. Furthermore, in the Statute Number 4 in 2009 about Mineral and Coal Mining regulates about country’s and region’s income, where the government obtained 4% from the result of net profit, and 6% to local government covering 1% for provincial government, 2.5% for regency government/producer town, and 2.5% for regency government/another town in the same province. In the above-mentioned regulation, the country gives the opportunity for the mining business to the people, both in the form of corporation and of the people's mining or something that is called with the term of small-scale mining. The mining done by the corporation or the people's mining (small-scale mining) is in actuality intended to enhance the welfare and prosperity of the people.

To reach the hope mentioned above, so natural resources especially the mining should apply the principle of the continual mining management. It means that the utilization of nonrenewable natural resources potential is done as maximal as possible through the increasement

www.jdmlm.ub.ac.id 1587
The effects of the exploitation of natural resources towards risk society construction

of value-added maximally by keeping paying attention to the principles of efficiency, equity, and environmental integrity. It bears the meaning that synergetic is not only on the stakeholders, but also on the popular natural and social environment with the term of triple bottom line, comprising profit, planet, and people (Elkington, 1997). The spirit of the continual mining management furthet needs to apply the good mining practice, namely paying heed to some rules like licensing, mining technique, safety and working health, environmental conservation, community development, and various steps of nurturing post-mining.

Ironically, the portrait of mining in Indonesia still puts aside a variety of problems. The fact is that the result of mining expected for national and regional development even gives the benefit to some of the certain parties only, even arouses a variety of risks for the society. Factual mining becomes the trending topic that is discussed a lot in mass media and daily conversation. The practice of mining on fatherland seems to express a variety of their problems aroused. Just consider, the conflict of gold mining in Timika, Papua; that of manganese mining in East Manggarai; that of tin mining in Bangka Belitung; environmental contamination in Buyat Bay, Minahasa, North Sulawesi; and massive damage of living environment because of gas and petroleum in Porong, Sidoarjo, East Java.

The effect of natural resources exploitation also happens in gold mining in Bombana Regency, Southeast Sulawesi Province. Since the location of the gold mining in Bombana Regency was discovered in August in 2008, so at that time, thousands of the miners from outside of Sulawesi Island, like Java, Kalimantan, and Papua came in high numbers to seek the grains of gold in Bombana Regency. Responding to the presence of the above-mentioned miners, the local government opened formally the mining for the people on November 1, 2008. When the activity of gold mining traditionally was opened formally, it was noted that the license holder for mining reached 64 thousands of persons (Kompas.com, March 12, 2009). The miner reaching ten thousands of the persons were spread in Tahit Ite River, Rau-Rau Village, Rarowatu District, Wuwubangka Village, and location of extranmigration of Settlement Unit (SP-8 and SP-9) in North Rarowatu District. The presence of the above mentioned gold miners drastically discloses ecological structure, primarily along the flow of the river. The risk on developmental activity also grows worse when the government closes the mining for the people and leaves it to the company. The presence of the company not only discloses the river and mountains that are assessed to contain the gold but also marginalizes the local citizens in the vicinity of mining location that is followed with the violent act.

The exploitation of gold mining in Bombana Regency, thus, adds the list of mining problematics in Indonesia. The welfare and prosperity of the people that are expected from mining management even give rise the risk threatening the safety of human and environment. A pile of problematics of the mining that become the trending issue, including gold mining in Bombana Regency increasingly clarifies the effect of the natural resources towards the construction of risk society as meant by Ulrich Beck and Anthony Giddens. Based on the elaboration of the tendency having an increasingly worse risk of the mining exploitation, so in this research intends to describe a variety of effects of exploitation the gold mining in Bombana Regency, Southeast Sulawesi Province.

The term of risk society is a theoretical brand for a sociologist of Germany, Ulrich Beck. In the risk society, the future becomes uncertain. According to Beck, modernity has a dynamics from classical modernity to new one coloured with risk society. In the process of its dynamics, Beck sees any transformations in modernity, in which the central issue of classical modernity is welfare and how the welfare can be distributed fairly, then turns to another side in developed society where the central issue is the risk and how the above-mentioned risk can be prevented, minimized, monitored or arranged (Ritzer, 1997). Therefore, Beck stated that we must have kept being in modern life in new modernity coloured with uncertainty.

In Risk Society: Towards a New Modernity (1992), Beck explained the risk as various possibilities of physical, mental, and social damages caused by process of technology and other processes, like social and political process. Significantly, the risk is closely related with the system, model, and process of change like industrialization, modernization, and development in a society. At least, three conditions are forming a variety of these risks. Firstly, a risk is created in a social system, say, by an institution or organization. Secondly, a significant risk is the direct function of the quality of relation and social process. Thirdly, the primary risk is caused by the significant dependency of the society that gets the risk on an institution or social actors that even is not touched by them.

Such perspective describes that social class is closely related to the risk society. According to Beck (1992), the history of risk distribution seems like wealth, the risk is inherent to the division of
class pattern, but it is the reverse. The wealth is accumulated at the top level or the peak (high class), while the risk is accumulated at the bottom level (low class). To a certain extent, the risk turns out that it does not erase the social class, but even strengthens the high-class society. For example, Beck wrote that the poverty accumulates abundant risk. Conversely, wealth is in the form of income, power or education can buy the safety and freedom of risk. Even though the haves class is on a beneficial party and can prevent the risk through its technological capacity, but no one or no rich nation as the risk maker is safe from the risk. In this context, Beck mentions it as "boomerang effect", namely the side effect from the risk can strike back to its maker centre. The agent of modernization itself clearly gets the risk that they make. The above-mentioned condition is in line with the perspective of Featherstone (1990) that the risk mostly is created by the source of wealth in modern society. Specifically, industry and its side effect arouse mainly the dangerous consequence, even deaden for the society as the result of world globalization in totality.

The terminology of risk society is the main theme in the work of Anthony Giddens as well. He differs the risk of a pre-modern environment (traditional) and modern risk. The environmental risk of traditional culture is dominated by the culture of the physical world, while the risk of the modern environment is structured by the human. Giddens (1990) illustrated the modernity risk like the Juggernaut riding so fast without control. Juggernaut, Giddens said, will destroy the person opposing it and even if occasionally take a good way, but occasionally, it can also turn to the way that is not imagined before. As a matter of fact, the analogy of Juggernaut that is meant by Giddens to explain that the modern mechanism has a much bigger effect than the agent driving it (Mestrovic, 1998). Giddens also assessed modern life as a world that is not controlled with the step, scope, and depth of its change (runaway world) compared with the previous system. For that reason, Giddens stated that modernity is a risk culture. Risk means that the uncertainty as the result of someone’s act or the possibility of the danger that cannot be ascertained or the bad result of the action happening beyond individual’s will.

Furthermore, Giddens (1990) elaborated five causes of the negative consequences of modernity: (1) Design faults, namely the consequence of modernity comes from a series of human’s faults designing the elements of the modern world; (2) Operator failure, a problem is not only on the designer, but also because the failure of operator runs the modern world; (3) Unintended consequences, namely the hidden effect that is not required because although the system is planned well and is carried out efficiently, but the result of human’s activities keep being not able to be forecast fully; (4) New knowledge in the form of concept, theory, and finding does not make the society's life clearer and more apparent, but even changes the nature and winds it to new direction; (5) Differential power and the rules of values among the society and group cause many relativisms and eliminate collective guide to establish and assess social situation.

In the context of mining, exploitation of modern natural resources as the gold mining in Bombana Regency currently has aroused a variety of consequences and risks. Exploitation of mining oriented on the using of modern technology has given the warning that modernity actually has generated a variety of risks. All forms of technology used in the process of mining not only produce the grains of gold but also at the same time the actor of mining as one produces various kinds of risks. Modernization of mining done by the company in actuality is meant to increase the people's welfare, but all of a sudden even causes the risks. The complexity of socio-economic activity to create human’s economy through modern technology like produces its own eater.

Materials and Methods

This research was conducted in Bombana Regency in Southeast Sulawesi on the consideration that in the mentioned above region has been taking place the exploitation of gold mining since 2008 and has aroused various effects, covering ecological and socio-economic effects. To deepen a variety of effects aroused from the exploitation of mining, so in this research was used qualitative research through a strategy of the case study. The using of the case study was meant to describe deeply and holistically some effects generated by the mining exploitation. The case study according to Yin (2013) is a kind of research in which it is studying to a case both individual and group done intensively, deeply, and comprehensively in which the statement that is built does not give rise to a generalization, but rather on the meaning comprehension.

As the effort of getting data holistically and integratively to answer the research question, it is required a set of primary data in the form of production and reproduction of discourse and secondary data used to describe the gold mining in Bombana Regency in the form of Regional Regulations of Bombana Regency on gold mining and data of Mining Business License from the
Minning and Energy Office of Bombana Regency. The collecting of primary data employed is a technique of documentation (archives), interview, and observation. After all data are collected, further they are analyzed interactively both when the research still takes place and after the research has been conducted. The technique of data analysis in interpretive qualitative is processed through the effort of data reduction, data presenting (data display), and conclusion drawing as systematized by Miles and Huberman (1994).

Results and Discussion

It is unavoidable that the activity of mining can give a positive contribution, but does not mean that the mining is free from negative effect. Economically, gold mining in Bombana Regency both in traditional (small-scale mining) and modern can use modern technology is highly promising. However, behind that, the exploitation of gold mining has aroused boomerang effect both directly and directly. The effect of gold mining in Bombana Regency has become the critics from various parties, like in academician matter, NGO of Walhi Sultra, students, and the society in the vicinity of mining location. This lineage assesses that the exploitation of the gold mining in Bombana Regency has aroused various negative effects so that the mining management no more incur the blessing and welfare, but the calamity to the people. The most dominant negative effect in the construction of risk society in the mining area is ecological and socio-economic effect.

Ecological effect

Exploitation of gold material traditionally both through the mining by people and the mining by the company seem to have destroyed the ecological system. The activity of the gold mining in Bombana Regency has destroyed the order of ecology like the damage of natural morphology and water quality reduction. The damage of natural morphology clearly is shown with the existence of hundreds even thousands of holes that are spread along the river. Generally, the watershed in the gold mining location has lost its form, and it is difficult to be recognized. This happens because the miners dig up the gold from the bottom of the river to the edge of the river. Such mining pattern brings about almost all areas of the edge of the river widens and changes into the digging holes and water puddle in rainy season spreading randomly. Such portrait can be seen in the river of Tahilte that is the first location of panning for gold. This river has undergone severe damage and destruction because of the body of the river that is formed naturally, currently it changes into the digging holes that spread everywhere, even the body of the river loses and is difficult to be recognized because it has widened to be formless and waterless any more when the dry season comes. Before the activity of the gold mining, the river water of Tahilte is clear and flows the whole year. Likewise, the dyke of Langkowala showed the same condition in which the water of the river has undergone a physical change. Previously, the water of Langkowala River is clear and pure, and then it changes into unclear because the content of mud has been high enough.

Since the deposit/gold material is increasingly limited in the river, the miners also shift to the land and hills. The digging up of gold material done speculatively and moves from one place to another one has resulted in the holes that open and spread widely and irregularly to almost all locations of mining. The exploitation of gold mining by using excavator and water pump to take gold materials lead to natural morphology changes quickly and uncontrollably. The condition of damage of natural morphology is increasingly worrying because the exploitation of mining not only happens in forest area but also to the area of citizens’ settlement, like what happened in Watu-Watu Village, Lantari Jaya District, Aneka Marga Village and Wumbubangka Village, North Rarowatu District. On the right and left side of the road in Aneka Marga Village to Wumbubangka Village can be seen a pile of the rest of mining and the puddle of water as the rest of mining activity.

Besides the damage of natural morphology structure, the most fundamental ecological effect is the reduction of water quality. Exploitation of gold material along the river and forest area has an effect on the water crisis. The observer of the environment, NGO of Walhi Sultra assess that mining exploitation has an effect on a disturbed agricultural activity. It happens because there is no more source of rice-field water. When the dry season comes, the rice-field becomes broken until the sole of the foot can be put inside. It indicates that the activity of mining is closely related to agricultural activity. Responding the crisis of water that happens, the society and students ask the government to cease the exploitation of gold mining in Bombana Regency, with the reason that since the activity of mining took place in 2008 in the past has resulted in a fatal risk for the existence of agriculture. The citizens around the area of mining feel that the gold mining activity was like a curse at the time. Irrigation drain of Langkowala Dike that supplied the water into the rice field for years was turned by the miner for the
gold mining activity in North Rarowatu District and Lantari Jaya District began to change the livelihood of the local citizen. About 3,000 hectares of paddy in the rice field in both of those districts underwent the failure in harvest because there was no water supply for irrigation. In 2009, the farmer did not have any harvest at all because the source of rice field irrigation was hampered by the mud pile as the result of the digging up of gold panning, even there is the body of river that is closed on purpose by the miner (Kendari Pos, June 30, 2009).

In addition to ecological effect in the form of water crisis felt by the rice field farmer, another problem is that the reduction of water quality disturbing the sailor and fishpond farmer happens. It is no more avoidable that the reduction of water quality not only changes physically from being pure into impure but also it has undergone the chemicals contamination because the miner uses quicksilver. Emiyarti's findings, the lecturer of Fishery and Oceanic Faculty, University of Halu Oleo showed the water content that has been contaminated in four Stations. Station 1 in Langkowala River with the content 0.07 mg/l, station 2 the flow of the river in the watershed of Langkowala with the content 0.26 mg/l, station 3 Wumbubangka River with the content 0.41 mg/l, and station 4 Langkowala Dike with the content 0.9 mg/l. According to the researcher of water quality from the University of Halu Oleo, the above-mentioned result had been a huge category (Media Sultra, November 4, 2009).

Such condition is very concerning for the sailor or fishermen because the mercury flowing through Langkowala River from the area of gold mining empties into Tiworo Straits, Muna Regency, and Kasipute Waters of Bombana Regency that is called as the place of the potential fish catching for the fishermen. Similarly, the worriedness of mercury effect is also felt by fishpond farmer. The hazardous chemicals are dissolved into the water and soil, and when it rains, the above-mentioned chemicals will be brought away by the floods flow and be retained into the fishponds of the citizens'. Heavy metal of mercury is not disentangled in liquids entering into the body of the fish, so the fish which is consumed by human will endanger the consumers. Direct effect from the using of these dangerous chemicals has been felt by some miners at the time, like the symptoms of itchy rash even the skin got peeled off until it got boils (Kendari Pos, December 12, 2009).

The portrait of ecological effect from the exploitation of gold mining in Bombana Regency confirmed that the environmental problems dealt with in this context is the strike back from human's behaviour-oriented on the spirit of capitalism. Marx sees that capitalism relationship is over against with the environment becoming the crisis core undergone by the human. This reflects the fact that it is not the technology that becomes the main problem, but the nature and logic of capitalism as the particular mode of production (Redclift, 2010). In keeping with that, Gorz (1980) stated firmly that ecological destruction is the consequence of political and economic institution procedure. Similarly, it is also explained by Giddens (1990) that ecological degradation is the result of the interaction between capitalism and industrialism.

Exploitation of random gold mining indicates the attitude of the actor’s greed oriented on the profit only as well. In the perspective of the greed theory, Dutton assessed that the destruction of environment largely is the consequences of the greed in reaching profit (greedy profit) as the propeller of the exploitation of the resources that harms the human community. In line with the perspective, in the perspective of theory of NIMBY (Not In My Back Yard) syndrome (Bryant, 1998; White, 2004) explained that the phenomenon of environmental damage is the symptom of the emergence of individuality attitude, where the societal members do not want to deal with the problem around them as the consequence of environmental contamination. Thus, it can be said that it is dominated by the desire of capitalism in the mining exploitation has the effect on ecological degradation that finally strikes back human’s life.

**Socio-economic effect**

Socio-Economy is one of the perspectives used to analyze phenomena, event, activity, and human's conduct in meeting with the complexity of their life needs, in which the economic practice mentioned above has a social implication, both in community scope and broad one like a country. Exploitation of natural resources is the economic activity having a broad implication on a community, society, even in a context of the country that can be measured from country's income (tax and royalty). In the context of exploitation of gold mining in Bombana Regency clearly showed the existence of socio-economic effect that is aroused, namely the socio-economic imbalance, marginalization of the local community from its natural resources, and act of violence by the security apparatus.

Firstly, the socio-economic effect in the form of socio-economic imbalance happens both at the level of society and at the level of regional government. At the level of society, the imbalance
happens because the gold shining has changed the paradigms of largely society of Bombana Regency having the profession as the farmers, fishermen, and labours, then, turns the job into the gold miners. Such a condition has a double effect towards the other economic sectors, among of them is that the scarcity of labour so that many developmental activities become unfinished. Atikurahman, the Regent of Bombana at that time said that one of the effects of gold mining done by tens of thousand societies is the stagnancy of a number of developmental projects. Another economic effect is that the unfinished condition of the agricultural area. Hundreds of rice field hectares in SP 2 Village and Wumbubangka Village become the uncultivated land. Likewise, the fishermen of Kampung Baru in Kasipute are reluctant to go fishing, so that the fish also becomes difficult to be found. The citizens in the vicinity of location mining at the time frequently ate noodles because the vegetables and fish seller chose to change the profession into the sudden traditional miners.

The scarcity of some basic needs and height of staples materials price above the society's reach who do not work the traditional miners. On July 17, 2009, the security apparatus that are in charge in the mining area are inside the area mining feel being ashamed to do physical violence to the apparatus. Generically, the citizens whose location are inside the area mining feel being understated that the border having the writing "No Entering the area of Business License of Mining Company". The forbidding of any person who will cross or enter the mining area. Even the researcher, when conducting the field observation is forced to argue with the company side each other. The forbidding of entering the area of Business License of Mining Company firmly is exhibited in every area of the border having the writing "No Entering the Area of Mining without Getting Permission".

The act of violence by security apparatus. Generically, the citizens whose location are inside the area mining feel being taken their rights, even suffer the violence done by the security side including from the Army/Indonesian Republic Police. The security apparatus that are in charge in the mining area are not ashamed to do physical violence to the traditional miners. On July 17, 2009, the security apparatus shot two traditional miners in Bombana.
Regency (Media Sultra, July 21, 2009). Besides having shot two traditional miners, the police and security guard apparatus of the company asked 69 traditional miners to dry in the sun. They were threatened to be burned, and some of them were kicked, beaten repeatedly, dragged, and asked them to be naked, even some of them were put their heads into plastic until they got difficulty to breathe. The two of their thumbs were bound; they were put into the car and were brought away to the location of the company (Media Sultra, July 24, 2009).

Coalition of Non Government Organization (NGO) that is against the violence of mining, some of them are Alpen Sultra, KPI Sultra, Medikra, PurspaHAM, and AGRA Sultra assessed that the act of violence done by apparatus of police towards the traditional gold miners of Bombana indicated that it has happened the violation of human’s rights as the effect of mining management that is pro to the capitalist by using the practice of militarism. The above-mentioned phenomenon clearly describes that the exploitation of gold mining of Bombana has constructed the risk towards the social structure in the form of social disintegration (conflict). Such description is in line with the perspective of Dahrendorf (1986) that on industrial society is patterned about the authoritative relationship, namely pseudo group and interest group. In gold mining of Bombana, there are two groups of interest having any conflict with each other. In keeping with the above-mentioned perspective, Fisher et al. (2000) explained that such conflict is caused by the absence or the presence of obstacle factor of human in fulfilling their needs. In the perspective of Human Needs Theory, the mining conflict happens because there is someone or a group of persons' needs hindered by a particular side. The competition of access to the resources, production tools, and economic opportunity is the main cause of very fundamental conflict.

**Conclusion**

The effect of gold mining exploitation in Bombana Regency in the form of environmental contamination, agricultural area destruction, and social conflict basically have something in common with the effect of mining in some countries as elaborated by Holden (2005), Delgado et al. (2009), Schueler et al. (2011), and Iavazzo et al. (2012). The exploitation of gold mining in Bombana Regency has destroyed the order of ecological structure so realistically, for example, the destruction of natural morphology, water crisis for the farmer, and the threat of mercury contamination towards sea and fishpond waters. Using dangerous chemicals like mercury has brought about health disturbance as well as the symptom of itchy rash. Meanwhile, the effect of mining exploitation from socio-economic aspect is that there is socio-economic imbalance and marginalization of the local community from its natural resources. The conflict of land between the company and society also frequently happens as the consequence of the mining land tenure in the area which is claimed by the citizen as their land or their ancestor's inheritance. The effort of citizen's opposition towards their rights even generates the act of violence by the security apparatus.

Thus, a variety of effects caused by the gold mining exploitation in Bombana Regency represents a hazardous condition of society. The expectation of the society's welfare and regional development from the management process of gold mining in Bombana Regency has not shown significant result yet, but even generates new condition, i.e. the emergence of risk society, covering the risk of socio-economic and natural material structures. The exploitation of natural resources that are expected to increase the society's economic condition in Bombana Regency, but conversely Bombana Regency even includes in the category of a backward region in 2015-2019 from 122 backward regions established by the government. For that reason, it can be stated firmly that if it is not carried out the whole structuring from various stakeholders, so the people's welfare through the exploitation of gold mining that has so far been discoursed by the regional government will become the sole utopia discourse.

Therefore, it is expected to the regional government to apply the continual partnership model in managing natural resources potential. The model of a partnership meant it is building collective commitment from the whole stakeholders by giving the priority three pillars as the base of continuity, namely: ecological, social, and economic continuity (triple bottom line). This is intended in order that the mining activity incurs the welfare for the societies in totality and continually through the community development and corporate social responsibility programs. This idea will be achieved if all stakeholders have collective consciousness based on the synergicity of the three pillars mentioned above.

**References**

The effects of the exploitation of natural resources towards risk society construction


Kendari Pos, 1 December 2009. Regional Representatives of Southeast Sulawesi Recommends the Moratorium of Gold Mining Authority (in Indonesian).


Media Sultra, 4 November 2009. Langkowala River & Wumbubangka River are Contaminated by Mercury (in Indonesian).


