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The Acceptance of Sand Mining Impact Information for Environmental Damage among Illegal Sand Miners in Jeneberang Watershed of Gowa Regency

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A B S T R A C T

Illegal mining has been disturbing residents, its consequences such as damage to buildings, to land and as well as the threat of landslides. This study aims to determine how the process of receiving information among the sand miners due to the impact of mining activities on the environment in the watershed Jeneberang, Gowa. The method used in this research is descriptive qualitative, observation and interviews with respondents directly to key informants consisting of 6-parties of BLHD Gowa and two representatives of the illegal miners who are still active and is no longer active and selects respondents intentionally (purposive) with predetermined criteria. Data were analyzed based on the Elaboration Likelihood Theory of Richard Petty and John T. Cacioppo. Based on the research results, admission information among miners became a boomerang attributed to the weak argument given the BLHD. Weak arguments given to the audience with high motivation in elaborating the message will turn on the rejection message is given so persuasive attitude change is difficult to achieve. This study suggests that the delivery of information about environmental damage through persuasive message carried Regional Environmental Agency to the miners do not achieve the goal of changing the behavior of the miners to stop illegal mining and the need to take into account the credibility of the communicator and the audience trust the communicator, as well as strength message in the process of providing information.

Introduction

The increasing number of people in an area often encourages increased demand for food, clothing, shelter, clean water and energy. This resulted in their high exploitation of natural resources tend to ignore aspects of

environmental sustainability (Purnama, 2013). The hotel surroundings suffered badly from the exploitation of natural resources beyond the carrying capacity (Salim, 2010). The assumption that the

environment belongs to the public, causing people generally do not feel guilty about exploiting the maximum natural resources and dispose of waste into the environment (Hadi, 2006). Mining is done by human effort for the purpose of subsistence. Only, the mining process is conducted so far, tend to be business exploitation of natural resources excessively, which in turn have a negative impact to human survival itself. One of the prevalent today is mining without permission. Mining activities lead to a variety of environmental changes, such as changes in the landscape, flora and fauna habitat changes, changes in soil structure, changes in the pattern of surface water flow and groundwater and so on. In his research (Dyahwanti, 2007) which investigate topic about "impact of mining activities of Non-metallic Mineral In Semarang (Ngaliyan the District Case Study)" said the impact changes with varying intensity and character. In addition to changes in the physical environment, mining also resulted in changes in the social, cultural and economic. In addition, it potentially leads to the health risks that threat the human life, especially those miners who expose to the pollution, (Mallongi *et al.*, 2014).

In the beginning of mining without a permit in most of the territory of Indonesia conducted by individuals or groups of people, as an additional business/sideline in areas that are believed to potentially contain minerals diamond, gold and tin. Increasing economic needs and results of operations of the mine which is expected to give hope of a better life, making actors attempt to divert secondary mining has become a major effort (Herman, 2006). In Gowa, non metallic mineral mining is one of the biggest sources of revenue. The area of non-metal mineral mines covering an area of 271 ha located in Bontomarannu District, Pallangga District, Pattalassang District, Parangloe District, and Manuju District (Karim *et al.*, 2012).

Based on data from the department of energy and mineral mining Gowa district there are 23 points that illegal sand mining sites still using pump/suction machine. Damage to the environment and will continue to threaten disaster if this activity continued even will increase the amount and intensity if not taken management actions and sustainable environmental control. Officials at the Environmental Supervisor (PPLH) Regional Environmental Agency (BLHD) Gowa and Department of Mines and Energy Gowa has been providing information about the environmental damage caused by sand mining activities undertaken in the region, but mining still continues. Communication path to be taken in the form of a direct meeting with the residents considered not effective. Even the actions of police officers who repeatedly seized equipment miners yet also provide a deterrent effect, even activities continue to this day. Based on the above presentation, the research aimed to find out the process of receiving information and factors that hinder information among miners sand on the mechanical effects of sand mining activities on the environment in the watershed Jeneberang in Gowa.

Materials and Methods

Research Design

This research is a descriptive qualitative observation, in-depth interviews and documentation. The focus of research is on the interaction (communication process) that occurs in the delivery of information on the effects of environmental damage caused by illegal mining between miners and BLHD Gowa. By their very nature, the data used in this study are: qualitative data, this data includes messages, arguments, responses and the views from the BLHD and illegal sand miners obtained through data sources

which are primary data and secondary data. Data were also obtained through interviews to answer in accordance with the knowledge that they know that will get varied answers to answer any matters related to the provision of information and barriers to the provision of information

Sampling techniques

The informants have been selected from two sides, from the government side (BLHD) and Department of Mines and Energy selected by purposive (deliberately) with the criteria of their informants ever interacting with the illegal sand miners in the form of education/socialization. Meanwhile, the illegal miners' criterion is the sand miners operating in Gowa Jeneberang DAS, especially miner without permission (using the pump/suction machines) are willing to become informants, and never get information from BLHD Gowa. Here researchers took informant representation of each active miners and miners who are inactive. Keep in mind that the issue of illegal sand mining is a sensitive issue, so the selection of informants is highly dependent on the willingness of the miners.

Researchers conducted participant observation through data collection that was done by direct observation to the study site. Observations carried out by means of direct observation to study site so that researchers are in the midst of the research object. The objective to get a clearer picture about the illegal mining activities going on and how the miners understand the activity in case it does. In-depth interviews were conducted to collect the data based on the guidelines that had been prepared before the interview debriefing took place with key informant's problem based on the framework. Documentation and conducted studies on

other literature about opinions, theories related to the research.

Data analysis techniques

The data analysis technique used is interactive analysis techniques Miles and Huberman, (Pawito, 2007). This analysis technique basically consists of three components, namely the reduction of data (data reduction), data presentation (display data), as well as testing and withdrawal of conclusion (drawing and verifying conclusions).

Results and Discussion

The research was conducted in the watershed Jeneberang Gowa. With the duration of the study for less than 6 months (June-November 2013) subject. Study results conducted found following description (Marini, 2014):

The Rise triggers illegal sand mining

Sand mining with suction pumps in Gowa generally occurs on land that was once an ancient stream. Land surface is to be a lot of dredged soil embankment or brick-making materials. Dredging in this land leaves the aqueous cavity deep enough so that it can no longer be planted. People who see these conditions were busy buying the pump and do activities with the sand suction pump machine. Unfortunately, these activities would increase environmental damage. Of known motivation aspect of illegal miners in Gowa make this activity as a source of livelihood quickly brings personal benefit. Mines possession on sand mining areas makes miners think that they have the right to use their land for their own interests. Sand mining pump is declared illegal because no permit from the Department of Mines and Energy Gowa district. While the use of

pumps BLHD states can indeed have a negative impact on the environment. When doing demolition Department of Mines and Energy will ask whether it has permission to mine the miners, but the miners when applying for a permit, the permit cannot be issued because of the unregulated mining rules about licensing the engine mine pump Permission is only granted for mining operators who use the excavator. While the capital needed to have a large excavator and location to be mined by illegal miners is not a region that is destined for the mine based Spatial Gowa. This also makes the miners back to blame the government, because it will take care of permits when they were not allowed.

Sand mine supervision by BLHD Gowa

When held often thrown supervision of statements indicating miners tendency to rationalize the illegal mining is done. The reasons are often asked by the miners can be seen in Table 3 As for the suggestions given by the BLHD and Department of Mines and Energy Gowa can be seen in Table 3

Admission process information

In conveying information to the illegal miners, the BLHD using two ways, i.e., through socialization and routine surveillance. Based on interviews and observations made here can be noted how the process of receiving information that occurs from the BLHD and illegal sand miners. In general, the communication process can be observed in Figure 1. In the communication model David K. Berlo, it is known that communication is composed of four main processes, namely SMRC (Source, Message, Channel, and Receiver) then plus 3 secondary processes, i.e., feedback, effects, and environment. In scheme, information on the admissions

process sand miners can be seen in figure 2 and figure 3.

Communication barriers between miners and parties BLHD

In table 1 the results showed the five respondents from BLHD known about the message is still struggling to information about the rules and methods of mining. This shows the power of persuasive messages is still weak. In table 2 the BLHD states only make a visit to the miners about 2 times a year and the duration of the meeting only about 30 minutes to an hour. In interview and observations made, it is known that the communicators were present to provide information to the miners is not the type who easily accepted communicator presence by miners. Relations supervisor/ government officials with its attributes as a supervisor and illegal miners who create situations that encourage communication stiffness and rigidity.

The process of communication between the parties illegal sand miners BLHD Gowa, in this study it was found that the illegal sand miners take the path of the route in receiving the message given by the BLHD. While the BLHD using neutral type argument in conveying the message to the illegal miners. This study uses the Elaboration Likelihood Theory approach to analyze the data obtained. Petty and Cacioppo (1986) (in Griffin, 2012) says that humans process information in a way that is not the same. There are two main routes of how information is processed. If one considers the message carefully, systematically and full accuracy, he took the central route (the route). Conversely, if a person does not think about the content of the message, but rather pay attention to cues in a complex message - as attractive or not its message, then it is said to wear the peripheral route,

Petty and Cacioppo (1986), Haugtvedt *et al.*, (1992).

Of the type and message lines that occur in the process of providing this information is known that illegal sand miners have high motivation in elaborating the given message. Miners studied the content of the persuasive message conveyed try BLHD parties about environmental damage caused by illegal mining, where the purpose of providing this information so that miners would stop illegal mining. Experience and knowledge of illegal miners on the reality on the ground is able to be associated with the submitted information is correct to make it rejecting miners BLHD information submitted. Weakness argumentation of BLHD parties addressed to the miners is quite critical of the information to make communication effective. In addition to other factors such as a strong economic motivation, make miners more resistant to the provision of information. The study also found that one of the causes of unsuccessful attempts to approach because of lack of attention to the illegal miners' important aspects of effective communication. According to Schram Effendy (2007) displays what is called "the condition of success communication", which is a condition that must be met if we want to generate a response message that we want.

In his research, Hartati (2012) said to convey message to the target group of individuals with high motivation, should be structured and convincing argument relate to message with personal interest recipient of the message. If want to persuade something for example product quality "less convincing" (weak argument), do not look for the target group of highly motivated and should be added with the presence perifer cues (ex; messenger, media). In this study (messenger) that parties tend to ignore

aspects BHL D message strength, intensity and attractiveness gift message communicator. Although these factors are included in indicator pathway peripherals, but draw attention to illegal miners can be invited in a more persuasive communication requires an approach in this way, although it is known, does not usually affect peripheral lines long (Perbawaningsih, 2012).

Conclusion

In response to a message promoting illegal miners ego-involvement is large enough so that the truth and facts about the impact of illegal mining activities on the environment is well done is not acceptable. Even tend to defend on behalf of the need and the difficulty of making a living in addition to mine illegally. So the information admissions process is not smooth and not gives effect to changes in the behavior of illegal sand miners. Another factor in the ELT concept of opportunity (intensity received the message) is seen from the results of this study are minimal accepted by the miners of the BLHD Gowa. Though it is becoming one of the important factors in the persuasion process, miners understanding about the impact of sand mining information on the environment caused obstacles message delivery method is less attention to the principles of effective communication and the weakness of the arguments in persuading BLHD miners. The use of neutral message type argument must be improved to strong arguments. Some merging processing in the central and peripheral message seems still to be considered by the communicator (BLHD), for example, consider the peripheral cues (messengers, media) such as who can be sent to deliver persuasive messages to miners, and how the message is delivered.

Table.1 Educative materials by BLHD

Respondent	1	2	3	4	5
Educative materials	<ul style="list-style-type: none"> • Mining regulation • Mining methods 	<ul style="list-style-type: none"> • Mining regulation • Mining methods • Mining Limitation 	<ul style="list-style-type: none"> • Mining regulation • Mining methods • Mining Limitation 	<ul style="list-style-type: none"> • Mining regulation • Mining methods 	<ul style="list-style-type: none"> • Mining regulation • Mining methods

Table.2 Education activities and duration

Respondents	1	2	3	4	5	Resume
Education Routinely	1 per year	1 per year	Not routine	1-2 in a year	2 time in a year	Routinely 1 per year, sometimes 2 times
Duration every education	More or less 30 minutes	mor1or less 1 hour	1-3 hours	More or less 30 minutes	More or less 30 minutes	30 minutes - 1 hour

Table.3 Arguments illegal miners

Illegal Mining Motifs	Miners response when being watched
Land ownership	1. The land mine is a private owned land, so he is entitled to do whatever he wanted on his own land, including sand mining.
The openness factor and Employment Needs	2. Mining of sand is the only source of livelihood to support themselves and their families. In addition, mining activities does able to recruit many workers who are not directly can reduce unemployment.
How to Obtain Instant Money	3. Sand mining activities are activities that quickly make money, from the proposed activities of other activities, such as making fish ponds.
Utilizing Land Damaged	4. The sand mined land is land that can no longer be planted as a result of dredging soil to soil embankment needs and making bricks. So the only way for the land to make money is to mine the sand contained therein.
Short-term jobs	5. The content of sand are there in the land of small numbers and limited. Short-term mining.

Table.4 Suggestions BLHD parties and the Department of Mines and Energy Gowa Regency

Regional Environmental Board	Department of Mines and Energy
<ol style="list-style-type: none"> 1. Plant trees around the former mining sites that land is not a landslide. 2. Make freshwater fish farms or shrimp on the former mine so there could potentially be explored in detail with the pump engine. 3. Reclamation former quarry 	<ol style="list-style-type: none"> 1. Respondents suggested that the illegal sand miners moved into the river which is still active, of course, by first taking care of permissions. 2. If you want to do a sand mining at the site of the ancient river, it is necessary to environmental impact assessment studies in more depth. 3. Monitoring of the mining activities carried out continuously at least once a month at each mine site. 4. The need for post-mining reclamation 5. Enforcement of rules and sanctions are better in the future. 6. Guidance and technical assistance from relevant agencies should be pursued continuously. 7. Information from the local community on adverse mining activities are expected and should be implemented immediately.

Figure.1 The information given process relate to impact of sand mining among the illegal miners

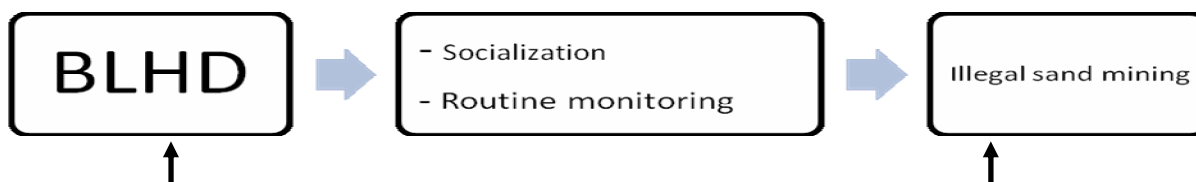


Figure.2 main process of communication BLHD to illegal sand miners

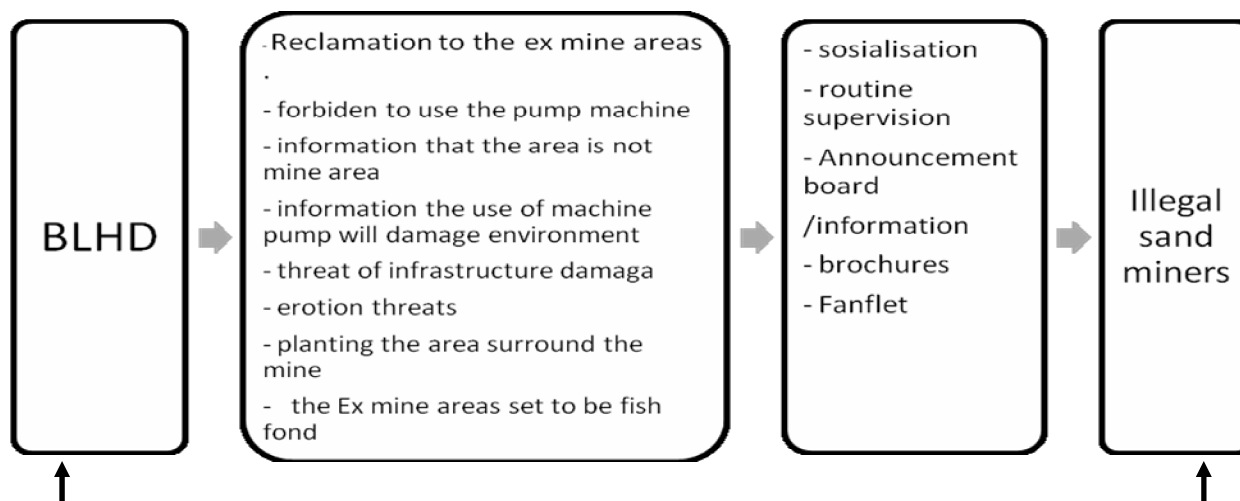
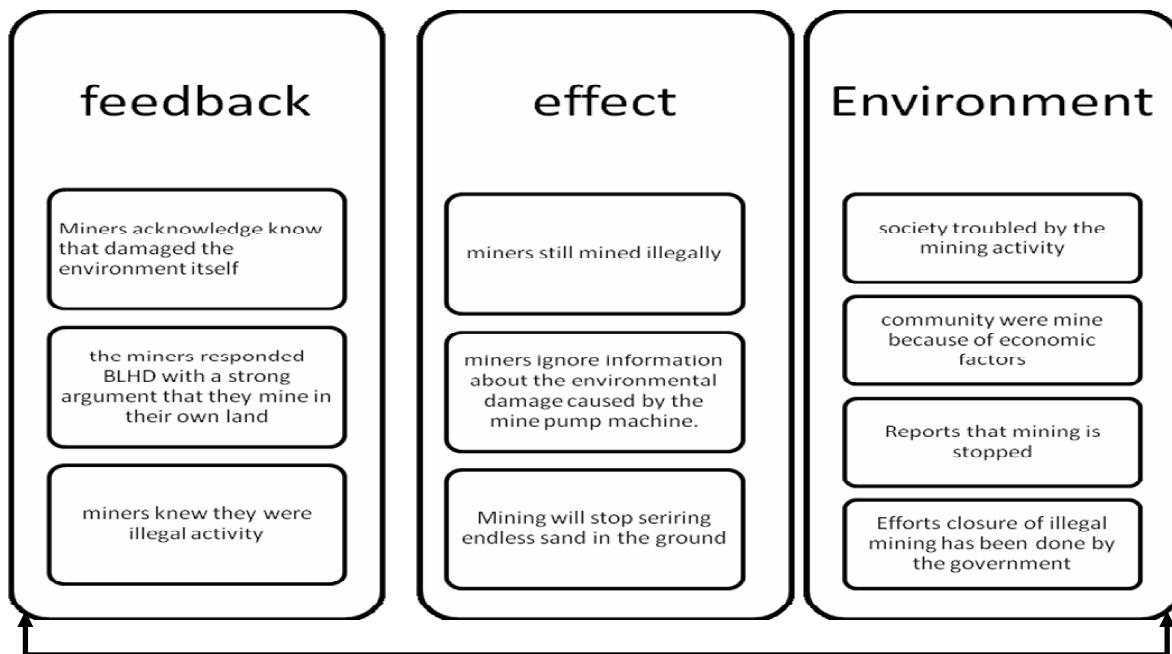


Figure.3 Communication Model Secondary Process between illegal sand miners and BLHD



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