

The Methodology for Measuring Social and Economic Impacts of Mine Closure on Community Development in Sawahlunto, West Sumatera

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Abstract

This paper seeks to investigate socio-economic impacts that emanated from the closure of coal mine as a mine concession of PT. BA UPO in Sawahlunto, West Sumatera. It was observed that there is environmental impact but the main consent of the research only for social aspect. Most importantly was the absence of a mine closure plan put in place for continued sustained community livelihood lead to serious social problem in local community such as unemployment, crimes and emigration. So, mine closure should be applied carefully and comprehensively.

Normally, the appearance of mining companies encourages the improvement in social services and play important role as a major economic backbone for the cities. As we know, there are hundreds of mining companies operated in Indonesia and probably for several decades in advance mine closure will be main issues in Indonesia. So, we should have good model in term of appropriate mine closure for Indonesia. Mine closure should be a multi-sector approach that involves the government, local council, private sector, non-governmental organizations and the local community.

Background

Indonesia is one of the largest exporter coal in the world. For example, coal production in 2009 is 252.47 million tones or 4.55% of the world total, and coal consumption only for 30.47 million tones (DESDM, 2009). In 2007, revenue from coal made up 70 percent of that year's US\$6 billion mining contribution to government revenue, and Indonesia supplied approximately 26 percent of the world's coal. The rise in coal production and revenue is in part because its export value has been the highest among mining commodities since 2003, reaching US\$6 billion.

Mine closure is an important issue to the mining town and to the communities living in the neighborhood, especially if there is no other industries. Mine closure often leaves serious impacts on the local community (Rao, P. Mallikarjun And K. Pathak, 2005). Normally a mine plays a major economic role, providing substantial fiscal revenue and many social services to the local community. The closure of a mine raises concerns about continuing environmental management of the mine, unemployment, and continuation of social services (such as water, electricity, and healthcare). If mine closure applied without good consideration will lead city become a ghost town.

Sawahlunto, known as Ombilin, is one of the oldest coal mining town in Indonesia. Mining operation began when one of Dutch Geologist found coal on Ombilin River in 1876. After Independence Day, Indonesia government with PT. Bukit Asam Unit Produksi Ombilin expropriated mining operation (www.wikipedia.com). Since that, PT. BA UPO plays an important role as major economic backbone in Sawahlunto community and vicinity. Every year, company pays for taxes and contributes to economical activity among thousand employees and their families who lived there.

Unfortunately, after reform era in 1998, because the amount of coal reserve declined significantly the mining operation of PT. BA is closed (mine closure), but after that there is an effort to extent mining operation with underground mining methods and again because of technical difficulties, the operation for almost one decade failed. So that,

there are thousand people lost their job and became unemployment. Of course, these conditions lead not only employment problem but also social infrastructure deterioration.

The research conducted to analysis about the socioeconomic impacts of mine closure in community in Sawahlunto, and in the future, we will have a model to make a good plan on mine closure and we will have appropriate program to reduce socioeconomic problems.

Research Questions

Local and central government agree that mine closure has great impact on socioeconomic where mine located so mine closure should apply carefully to maintain stability in economic activity. Until today in many countries there are many examples when there is mine closure the city became ghost town. This problem will lead to the question for the research as "What are socio economic impacts of mine closure for community in Sawahlunto?" This question will become the research main question and from this question will raise another minor question like:

What are the benefits of mining activity for community before mine closure?

What is mine closure?

What kind of socioeconomic impact happened after mine closure?

How is condition of labor local market?

Who are suffer more from mine closure?

What is the policy or regulation from local and central government regarding mine closure?

These questions will give a real situation when mine closure done. And the next questions that should be answered are about how to encourage local economic activity. These are the question:

How to create job in other sector in local economy?

What is appropriate program to strengthen the social safety for laid off worker and their families?

Methodology

There are three goals regarding mine closure plan in Sawahlunto. (i) assessing the impact of the coal mine closure in socioeconomic in Sawahlunto City (ii) evaluating of the effectiveness of mitigation policy for local labor and (iii) developing policy recommendation to address the problem from mine closure. In the end of mine closure plan, the result of research should be applied to determine how to maintain economic activity in community and region also to discourage people leave the city and the city will exist without any problem such as crime and poverty. The evaluation should be applied by government to all aspects of mine closure from beginning to the end of mine closure.

The detailed research is very important because it can give an overview of the mine closure and its impact to community. In addition, the importance of the local economic activity is to keep people leave the city. This study also tries to create a good model for mine closure in the future in the other mining towns.

The research is conducted in Sawahlunto City and the research was designed primarily as a qualitative study in two phases consisting of in-depth interviews with national, regional and local experts (in the first phase) and impacted groups of the population and "response" groups such as local labor (in the second phase). The research carried

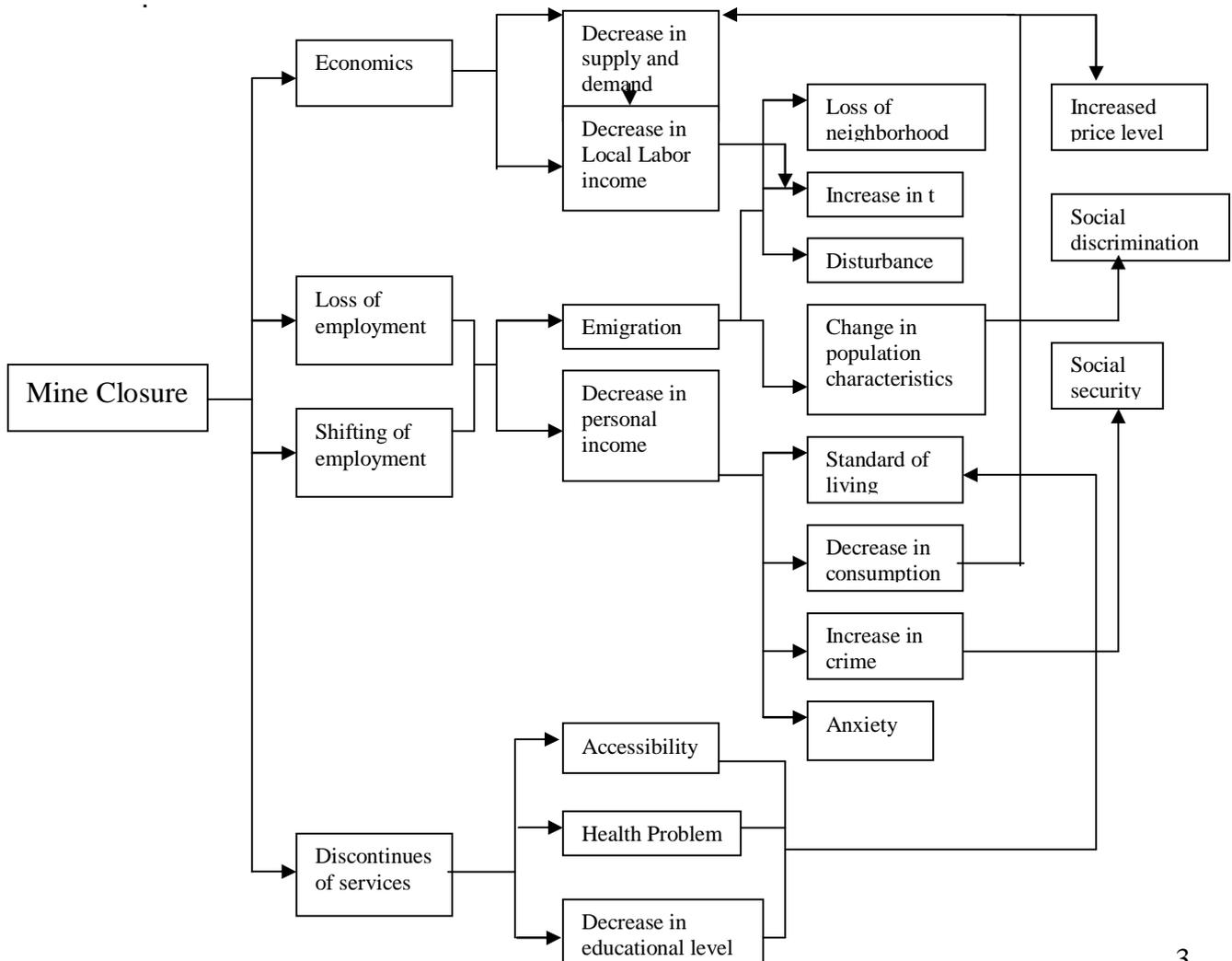
out in Sawahlunto also included a quantitative component in which survey data were collected on employment and living conditions.

Collecting secondary data on mine closure from Dinas Pertambangan dan Energi and PT. BA UPO will be the first step of research. The data should cover all aspect of mine closure including the technical reason of mine closure, the process of mine closure and the policy framework. The data will also about the impact of mine closure, such as the number of people who lost their job. These data are meant to understand comprehensively about mine closure. The next step is to gather literature related to mine closure theories.

After we studying the secondary data about mine closure and literature about it. We will collect primary data from interview with the neighborhood community. The interview will focus on the socioeconomic impact of mine closure from the beginning until now. The interviews will be a resource interview, from the village leader to local labor and from the officers of Dinas ESDM to officers from PT. BA UPO.

Mine Closure Plan

The diagram shows the impacts of mine closure for social and economic aspects. Firstly, the main impacts are related with economics aspects. There are four major impacts including economics, loss of employment, shifting of employment, and discontinue of services. At the end, there are three main issues regarding mine closure such as increased price level, social discrimination, and social security.



Research Objective/Target	Required Data	Data Sources	How to Obtain The Data	How to Analyze The Data
(1)	(2)	(3)	(4)	(5)
Define the impact of mine closure in community	<ol style="list-style-type: none"> 1. History of coal mining in Sawahlunto 2. Role of coal mining in local economic activity 3. Process of mine closure 4. Regulation on mine closure 5. The point of view of experts. 	<ol style="list-style-type: none"> 1. Local and central government 2. PT. Bukit Asam 3. Internet sources 	<ol style="list-style-type: none"> 1. Collecting data from institution 2. Literature study 3. Interview or focus group discusion 	<ol style="list-style-type: none"> 1. Data tabulation 2. Literature study
Define the best ways to maintain local economic activity	<ol style="list-style-type: none"> 1. The number of entrepreneurs who can provide job opportunity 2. The number of local labor 3. Total population 	<ol style="list-style-type: none"> 1. Local and central government 2. PT. Bukit Asam 3. Internet sources 	<ol style="list-style-type: none"> 1. Collecting data from institution 2. Literature study 3. Interview or focus group discusion 	<ol style="list-style-type: none"> 1. Data tabulation 2. Literature study

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