

## THE IMPACT OF THE GOLD MINING ON THE SOCIAL, ECONOMIC AND CULTURAL IN THE BOMBANA DISTRICT SOUTHEAST SULAWESI PROVINCE

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### Abstract

The phenomenon of a gold mine brings a lot of changes in people's daily life in the Bombana District. This study aims to: (a) Aware of the social and cultural changes in society before and after the gold mining business, and (b) Knowing the changes in people's income before and after the gold mining business. The study population is the people who are in the gold mining sites. This study result, namely: (a) Gold mining have negative impact on social, economic, and cultural of communities around the gold mining area. Social, economic, and cultural societies tend to be in better shape before the gold mining, (b) Average income communities after the gold mining increase by \$68.67 per month. Farmers who switch professions to miners and miners/illegal logging has income increased each by \$76.66 per month and \$67.83 per month, while the farmers were still living as farmers has income decreased by \$8.84 per month, (c) Gold mining do not increase the welfare of society, especially for farmers. The implication of this study is government should strictly supervise and tighten even a moratorium against IUP, and gold mining companies should have corporate social responsibility (CSR) in the form of incentives to the affected communities of the businesses under their management in the fields of education, health, agriculture, economics, and culture as well as other aspects relating to the welfare of society.

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### INTRODUCTION

Metal gold is easy to sell goods investment and relatively stable value and price. The earth's natural mineral content in Indonesia many kinds and large amount. Mineral resource-rich province, among others: Aceh, Riau, East

Kalimantan, West Kalimantan, Nusa Tenggara, Sulawesi, and Irian Jaya, (Wikipedia Ensiklopedia, 2002).

Southeast Sulawesi in particular, at the beginning of the September 2008 found containing gold in Bombana District, precisely in the Tahi Ite River. Bombana's gold was categorized as

secondary or put gold deposits (placer) contained in the ancient river deposits that are usually concentrated in certain parts of the ancient river channel (Zulkarnain, dkk. 2009). Thus the excavations made by the community are always directed to seek ancient river deposits sand is usually found in relatively shallow depths (3-6 meters).

Phenomenon of the gold mines in the Bombana District brought a lot of changes in people's daily life. Enthusiastic people were very high, not only from Southeast Sulawesi Province, but also from various parts of Indonesia to try his fortune working as a gold miner in Bombana.

In order to manage this phenomenon, the Regent of Bombana issued a letter No. 543/1741/2008, about permit recommendation regarding temporary job seekers in Bombana. The letter contains that people must have a mining license or temporary permit that was issued by the local government Bombana if will do mining of gold. In addition, people were also required to pay a retribution to take care of mine permits. People who had Bombana Identity Card charged Rp 100,000 per person with a validity period of six months, while who had not Bombana Identity Card charged Rp 300,000 per person. In the same year, the district government issued 13 permits mining authority and two of them have been in operation, PT. Panca Logam dan PT Tiram Indonesia. It was clear that the presence of the gold mining business has donated a very large income for the Government of Bombana.

However, when examined carefully the mining business, then the location of these activities will all look the same issues, albeit with varying intensity. These problems can be divided into social, economics, and culture issues, and environmental losses. Sulistina, et al (1991) stated that the business of gold

mining can cause physical and non-physical impacts positively or negatively. Positive physical impact include: the availability of new jobs, rising incomes, the requirement for daily living are realized in the form of building of housing facilities, places of worship, means of communication and entertainment (radio, TV equipped with a satellite dish, VCD/DVD), means of transportation, the construction of roads and bridges.

Negative physical impact of mining activities such as; damage the soil, water, vegetation, including human damage. The direct impact of mining activities is ecological damage, such as reduced debit of rivers and ground water. While the non-physical impact of gold mining business, including: change the mindset of society, such as changes in community organizations, public perception, lifestyle and satisfaction, changes in employment, changes in education (formal and non-formal), changes in a woman's life (Abdulsyani, 1994).

Changes in social, economic and cultural aspect that has mentioned above may also be felt by the people in Bombana as the impact of gold mining. Thus, it is important to study the impact of social, economic, and culture of the gold mining business in Bombana so that could be a source of information and reference material that is important for the government, universities and the private sector in order to realize the welfare of communities around mining sites.

This study aims to: (a) Aware of the social and cultural changes in society before and after the gold mining business, and (b) Knowing the changes in people's income before and after the gold mining business.

## **MATERIALS AND METHODS**

This study was conducted in Bombana Southeast Sulawesi. The study population is the people who are in the

gold mining sites. The sampling method used was cluster random sampling, with the consideration of a very large number of the population and its characteristics tend to be homogeneous.

There are three data collection techniques used in this study, namely:

- a. Survey techniques: the method of collecting information from a sample by using a list of questions that have been structured or questionnaire.
- b. Recording technique: a method of collecting information by recording, supporting data from relevant agencies.
- c. Library Assessment: a method of collecting information by looking at textbooks, research journals, and other materials relevant as the theoretical basis of this research.

There are three types of methods of analysis used in this study, namely:

- a. The analytical method used to analyze the social and cultural impact of the gold mining business is descriptive qualitative. The analysis is done by describing the phenomena associated with the response of the gold mining (social organization, systems equipment and technology, subsistence systems).
- b. The analytical method used to analyze the economic impact of gold mining operations is quantitatively, namely income analysis before and after the gold mining then performed on two different test results (t test).

Table 1. Criteria of Impact of Gold mining to Social, Economic, and Culture

No	Criteria	Interval (%)
1	Very good	84-100
2	Good	67-83
3	Good enough	50-66
4	Lest good	33-49
5	Not good	16-32

**RESULTS AND DISCUSSION**

Gold mining in Bombana District found since the year 2008. It brought

many changes to society, either change to better living conditions as well as to the living conditions worse. These changes include the social, economic, and cultural.

**1. The impact of gold mining on the social aspects of the community.**

The presence of the gold mining in an area extensively affects people's lives around the gold mining area, including its social change. Social change encompasses the fields of education, health, entertainment facilities, public institutions, and patterns of interaction.

**a. Education**

Firstly, Gold mining that was done by people or groups of people traditionally or by companies with modern technology was hoped to give benefits on improving the quality of human resources. Such improvements can be achieved through the provision of educational facilities. Since the existence of the gold mining, communities in Bombana District were not feel any real benefit in improving the quality and quantity of educational facilities. Most of the people (72.55%) claimed the gold mining has not been a real impact on improving the quality of education for the communities around the mining area (Table 2).

Table 2. Public Perception of the Impact of Gold mining to the Aspects of Education

No	Criteria	Quantity (People)	Percent (%)
1	Very good	-	-
2	Good	22	14.38
3	Good enough	20	13.07
4	Lest good	58	37.91
5	Not good	53	34.64
Total		153	100

Some people claimed the gold mining had a significant impact on education. It was because they can build primary schools independently from the benefit of gold mining. Actually, school buildings was done by gold miners (migrants) in the Rau-Rau village. This

was done because the distance existing mining locations far enough so their children could not attend school.

In general, the gold mining that was conducted by the companies even not yet had a significant impact on the educational aspect. This is indicated by; (1) 84.31% of respondents said there was no additional school buildings; (2) 83.00% stated that there was no renovation of school buildings, and (3) 83.00% of respondents said no additional educational support facilities, such as book-free.

In addition, at the beginning of the gold mining many children did not go to school because they participate in gold mining activities (69.82% of respondents) with their parents. This time, the children no longer go to mine because of the rising risk of mining. It could be explained that much water has been polluted and the land began to landslides due to mining activities. Beside that, mining activities were carried out illegal mining in the area of the company (PT. Panca Metal Nusantara), case in Wumbubangka Village.

#### **b. Healthy**

Firstly, the presence of the gold mining was expected to have an impact on improving the health of society. That can be reached by increasing the quantity and quality of health infrastructure. Fact, the people in the Bombana District have not felt an increase in the availability of health infrastructure since the existence of gold mining. This was shown by the statement of the respondents (85.62%) that gold mining did not have a significant impact on increasing the quantity and quality of health facilities (Table 3).

Some people claim that gold mining gave good impact on the health aspects. It could be explained that gold mining companies (PT. Panca Metal Nusantara) improved community health status through screening programs and free

medical, cases in the Wumbubangka village. This activity was carried out every month, but this activity was not carried out again since September 2011. Thus, more and people who claimed that their healthy and healthy infrastructure relatively constant, tend to decrease. Since the gold mining both by community groups and companies. This was shown by: (1) 84.97% of respondents said there were no additional health infrastructures since the gold mining; (2) 85.62% of respondents said there were no additional health workers; and (3) all respondents stated that people often suffer from illness, especially respiratory diseases (acute respiratory infection).

Table 3. Public Perception of the Impact of Gold mining on Health Aspects

No	Criteria	Quantity (people)	Percent (%)
1	Very good	-	-
2	Good	-	-
3	Good enough	22	14.38
4	Lest good	32	20.92
5	Not good	99	64.71
Total		153	100

About respiratory disease, the disease was often suffered by people due to the dust that pollutes the air. This was caused by the gold mining companies in using rural roads as a road mine. Therefore appear conflict between communities and gold mining companies (in the case of the Wumbubangka Village). Based on this case, the necessary firmness of government to conduct surveillance and strict action against companies that use public roads as state roads for mines.

#### **c. Means of Entertainment**

The existence of the gold mining had positively impact about increased of means of entertainment. However, availability of entertainment could have a positive and negative impact (Sulistina et al, 1991). The positive impact was shown by an increase in the ability of people in buying television that was equipped with

a parabolic antenna and video Compact Disc (VCD) or Digital Compact Disc (DVD). This was shown by the revelation of 83.66% respondents who stated the gold mining had good impact on the availability of entertainment facilities (Table 4).

Improved means of entertainment also had negative impacts for society. This was indicated by the statement of all respondents that means of adulthood entertainment has increased since the existence of gold mining. Adult entertainment facilities such as karaoke facilities and billiard. Entertainment facilities like this were mostly found around the gold mining area. The negative impact of the means of that adult entertainment like alcoholic beverage sales activity and illegal prostitution activities. It damage the morale of the younger generation, degradation of moral values, and social conflicts. Therefore, people were looking forward to the involvement of government officials to curb the indicated means of entertainment activities and the sale of alcoholic beverages illegal prostitution.

Table 4. Public Perception of the Impact of Gold mining on Health Aspects

No	Criteria	Quantity (People)	Percent (%)
1	Very good	-	-
2	Good	14	9.15
3	Good enough	128	83.66
4	Lest good	6	3.92
5	Not good	5	3.25
Total		153	100

#### d. Society Institutional

Gold mining activity is expected to increase the role of institutions in society (Abdulsyani, 1994), both formal institutions, such as village institutions (LMD), as well as non-formal institutions, such as farmer groups. The involvement of the company in the form of physical

assistance, such as the provision of all assistance and non-physical activities, such as training for farmers. Fact, since the existence of the gold mining, institutions at the village level had not received assistance from the companies or groups of people who did gold mining.

The existence of gold mining unfavorable impact even less likely both to the institutional community (Table 5). This was shown by: (1) there were 96.73% of respondents stated no increase in the activity of farmer groups and even some farmer groups defunct, case in the Wumbubangka Village. Rice cultivation has not be processed due to lack of irrigation water. Irrigation water source was used by PT. Panca Metal archipelago to their gold mining activities, and (2) there were 75.82% of respondents said that companies or groups of people who did mining did not give a good impact to the increased activity of public institutions.

Table 5. Public Perception of the Impact of Gold mining on Society Institutional

No	Criteria	Quantity (People)	Percent (%)
1	Very good	-	-
2	Good	-	-
3	Good enough	19	12.42
4	Lest good	10	6.54
5	Not good	124	81.05
Total		153	100

Other negative thing, companies or groups of people who did gold mining activities never coordinated with institutions in the village level such as the village government and the village society institution (LMD) in running the business of gold mining.

### e. Patterns of Community Interaction

About the patterns of social interaction, gold mining activities is expected to give a positive impact. Fact, patterns of community interaction that occur in the Bombana District were not as expected. A considerable negative impact caused by the presence of gold mining in Bombana District. There often raised any conflict of interests between the local communities themselves, as well as among the local community with the mining companies, the government, and by immigrant communities.

Table 6. Public Perception of the Impact of Gold Mining on Health aspects

No	Criteria	Quantity (people)	Percent (%)
1	Verygood	3	1.96
2	Good	31	20.26
3	Good enough	67	43.79
4	Lest good	44	28.76
5	Not good	8	5.23
Total		153	100

In general, the pattern of community interactions tend to be quite good since the gold mining (Table 6). However, there were respondents who said patterns of community interaction tend to be less well even be worse since the gold mining. This was shown by: (1) 64.71% of respondents stated that frequent of conflicts between communities and mining companies was increase; (2) 52.94% of respondents stated that conflict between community and government sub-district and district levels often occur since the gold mining business; and (3) 61.25% of respondents stated that conflicts between local communities and immigrant communities often occur since the existence of gold mining activities, case of the village of

Rau-Rau. Gold mining was done by groups of people who came from outside the Bombana District and Southeast Sulawesi Province.

Table 7. Public Perception of the Impact of Gold Mining on Social Aspects of Society

No	Criteria	Quantity (people)	Percent (%)
1	Very good	-	-
2	Good	-	-
3	Good enough	28	18.30
4	Lest good	113	73.86
5	Not good	12	7.84
Total		153	100

In general, the gold mining gave unfavorable impact on the social aspects of the community in the Bombana District (Table 7). This is caused by: (1) the company indifference towards the improvement of facilities and infrastructures of education and health; (2) an increase in social ills of society, such as illegal prostitution; (3) the absence of the role of corporate and community groups that conduct gold mining activities to increase the role of community institutions around the mining area; and (4) an increase in conflicts between people and communities, between communities and between communities and mining companies to governments. In this regard, the necessary involvement of various stakeholders (public, corporate, and government) to address social problems arising from the gold mining.

### 2. Impact of Gold Mining on the Economic Aspects of the Community

Government gives permission of gold mining management to the companies is to increase the economy of

the state and communities around the mining area. A positive impact because of the presence of the gold mining include: the availability of new jobs, rising incomes, and the fulfillment of the daily needs. Gold mining have a positive impact on the economic aspects of society in the Bombana District. However, most of the people expressed that the gold mining adversely affects the economic improvement of the community (Table 8).

The less good impact of gold mining to the economic conditions indicated by: (1) the entire area of 156 ha of rice fields in the Wumbubangka Village already could not be processed due to irrigation water source had been used by PT. Panca Metal Archipelago in the processing of gold. It caused loss of production amounting to 645 tons of grain per season assuming lowland rice productivity by 4.14 tones / ha (BPS, 2010), (2) there were 52.29% of respondents said that gold mining operations had no impact on the availability of larger employment opportunities; (3) there were 75.61% of respondents said that there was no increase in existing business activity around the mining area; (4) there were 81.05% of respondents expressed a mining operation did not support the provision of new business opportunities for the community; (5) there were 72.55% of the respondents said that wages which was received by employees of gold mining companies did not fit to the societal expectations; and (6) there were 82.35% of respondents expressed that a gold mining operation did not increase the welfare of society in the gold mining area.

The less good impact of gold mining on people economic influenced on the community's ability to meet their daily needs, such as food and educational needs of children. This condition is indicated by: (1) there were 76.47% of respondents stated that they were not able to meet the needs of families who bear, and (2) there were 64.71% of respondents stated that there were no significant impact of gold mining on the cost of meeting the needs of children to school. This is because the mining operation has removed the staples of livelihood (farming), case of the Wumbubangka Village. The people who switched from agricultural businesses became employees of the company or group of people did not receive the higher income than farm income.

Table 8. Public Perception of the Impact of Gold Mining on Public Economics Aspect

No	Criteria	Quantity (people)	Percent (%)
1	Very good	-	-
2	Good	19	12.42
3	Good enough	7	4.58
4	Lest good	103	67.32
5	Not good	24	15.69
Total		153	100

The existence of the adverse economic impacts of gold mining on the deterioration of the stability of people's lives around the mining area. Hence, it required the involvement of various stakeholders, especially the government to address various issues relating to the economic aspects of society.

### 3. Impact of Gold Mining on Cultural Aspects of Society

Characteristics of the gold mining business which was in contrast with the characteristics of agricultural business

that had been undertaken by the community in the Bombana District looked very different. Characteristic of agricultural and mining products and processes both of them were very different. This brought the influence of cultural change around the gold mining area.

Gold mining gave unfavorable impact on the cultural aspects of the community in the Bombana District (Table 9). It was shown by: (1) there were 81.70% of the respondents said that the spirit of mutual aid began to decrease since the gold mining business. Community spent more time at the mine site for gold panning; (2) there were 77.12% of respondents said that local knowledge in the use of natural resources has not maintained. For example, before there was a gold mining, community did not cutting down the young age trees in the forest, but now people cut down trees without regard to the age of the trees to be felled. The other culture change in the gold mining area such us Tahi Ite river use River in the Rau-Rau Village and Lulua River in the Wumbubangka Village as a source of water to meet the needs of clean water for the people, now that function has changed as a source of water for gold mining activities.

The next unfavorable impact on the cultural aspects of gold mining; (3) there are 88.24% of respondents stated that traditions of privileging certain places disturbed by gold mining activities, such as tradition of privileging the forest around the Tahi Ite River. This is because the location of the water source had not

adhered to by the public, especially by migrant communities. (4) there were 90.85% of respondents said there had been a shift in the way of life, agriculture/farming was a cultural heritage but this was abandoned after the gold mining. This occurs because some people switch to other sectors of business voluntarily or forced not to farm due to no source of irrigation water. It was experienced by lowland rice farmers in the Wumbubangka Village.

Table 9. Public Perception of the Impact of Gold Mining on Cultural Aspects of Society

No	Criteria	Quantity (people)	Percent (%)
1	Very good	-	-
2	Good	-	-
3	Good enough	45	29.41
4	Lest good	106	69.28
5	Not good	2	1.31
Total		153	100

Shifting cultural heritage of agriculture as a way of life that has been abandoned by the society since the gold mining was also shown in Table 10.

Farmers are the dominant work in the community of Bombana District before gold mining activities. Once there is gold mining, most farmers switched professions to other professions (Table 10). Not all farmers switched professions as gold miners. Many of them were also practicing a profession as a farmer but do illegal logging after the gold mining because farmers could not cultivate paddy land owned in the absence of a source of irrigation water.

There are several sources of livelihood were totally abandoned by the community around the mining area, among others: caning, towing wood in the



forest, loggers, wood processing, and Indonesian labor (TKI). The types of jobs that totally abandoned was only a

minority job community before the gold mining activity (less than 2%).

Table 10. Type Livelihood Livelihoods and Percentage of Communities around the Mining Regions who did it before and after mining Gold Table

No	Type Livelihood	Quantity (people)	Percent (%)	Different (%)
1	Farmers	78.82	11.76	-64.05
2	Farmers/Miners	-	0.65	0.65
3	Farmers/Illegal Logging	-	9.15	9.15
4	Farmers / Entrepreneurs	0.65	0.65	0
5	Caning	1.31	-	-1.31
6	Traders	8.50	7.84	0.65
7	Towing wood in the forest	0.65	-	0.65
8	illegal logging	0.65	-	0.65
9	wood processing	3.27	-	3.27
10	Buying and selling gold	-	1.31	1.31
11	Miners	-	38.56	38.56
12	Miners / illegal logging	-	18.30	18.30
13	Construction workers	1.31	1.31	0
14	Entrepreneurs	5.88	9.15	3.27
15	TKI	0.65	-	0.65
16	PNS	1.31	1.31	0
	Total	153	100	

Bombana as a gold mining area, however, very few local people who switch jobs and selling gold. This was due to this profession requires substantial capital, while very few people who have the needed capital. There are several sources of livelihood remains a primary focus on the communities surrounding the gold mining until after the gold mining, among others: construction workers and civil servants (PNS).

There was a phenomenon in the Bombana District. Generally, parents did gold mining to collect money to pay for their children who will participate in the selection recruitment of civil servants.

#### 4. Changes in people's income

Since there was a gold mining,

many people/farmers who tried to venture with turned-miners in the hope of obtaining a better life. Gold as a precious metal has a high selling value, easy sales, and durable. It was the reason so that they hope can earn money with a relatively short time. This is very different from the characteristics of the field of agriculture that they pursue. The result of hard work (farm income) was obtained in a rather long time '1 growing season' for seasonal crops and 'annual' for annually. Characteristic of agricultural products are perishable, voluminous, and bulky. This was a challenge that has been faced by those who work as farmers. However, not all of the communities around the mining area switched professions to become

miners, there are also retained as farmers (Table 11).

Table 11. Changes Income of Communities in Gold Mining Areas

Not changed	Changes in Income (%)			Average Income (\$/bulan)		The Increase in Income (%)	Paired sample T Test (sig 2 tailed)
	Decreases	Increases	Total (%)	Before mine	After mine		
26.80	13.73	61.25	100	75.92	144.593	90.45	5.12*** (0.000)

Description: \*\*\* = significant at the 1% error rate

Communities around the mining area turned-gold miner generally aim to increase their income, but some people who remain at work changed their income (increase, decrease or remain) as a result of gold mining. Average income of communities increased after the gold mining compared before (Table 11), with an increase in income of \$ 68.67 per month (statistically significant at the 1% error rate).

The result of this analysis appears to conflict with the results of the analysis about the impact of gold mining on the economic aspects of society, i.e. community economic conditions become unfavorable since there was a gold mining.

The results of the analysis in Table 11 actually tends to coincide with the results of the analysis in Table 8. An increase in people's income (Table 11) derived from the business as a miner, miners/illegal logging, trade in gold, trade, and self-employed as well as employees mining companies but it was not followed by an increase in purchasing power. The prices of primary and secondary commodities have increased after gold mining. Increases in the prices due to the availability of staple food items

and other support needs (water and fuel) in an amount not sufficient. This resulted in an increase in the cost of living for people around the area of gold mining. Thus, an increase in income does not increase the welfare of society.

The transition occurs on communities who had profession as a farmer (Table 10), actually. Generally, their purpose was to achieve a better life than when the farmers. It is very interesting to be analyzed whether their goal was indeed achieved and statistically significant.

After the gold mining, not all farmers around the mining area who switched their professions success to increase their income (Table 12). Among that farmers there were not even an income increase or even decrease income. There were also a nominal increase income but not significant at the 10% error rate statistically, i.e., farmers were turning to the profession of buying and selling gold, traders, and self-employed. The income of farmers who switched professions became a miner or a farmer who later became a miner/illegal logging increased in the error rate of 1%, significantly. The each increase in incomes achieved amounting to \$76.66

and to \$67.83 per month.

Table 12 Percentage of Farmers who switch Livelihood and Change Earnings after Gold Mining existence.

The work before the gold mine	Job after the gold mine	Percent (%)	Average Income (\$/month)			Paired sample T Test (sig 2 tailed)
			After mining	Before mining	difference	
Farmer	Farmers	15.38	58.08	66.92	-8.84	-2.07* (0.054)
	Farmers/ Entrepreneurs	3.42	107.95	95.45	12.5	0.47 <sup>ts</sup> (0.670)
	Farmers/Illegal Logging	11.11	61.54	60.84	0.7	1.00 <sup>ts</sup> (0.337)
	Farmers/ Miners	0.85	181.82	27.27	154.55	tda 5.19*** (0.000)
	Miners/ Illegal logging	41.03	136.93	60.27	76.66	5.38*** (0.000)
	Buying and selling gold	22.22	130.42	62.59	67.83	1.20 <sup>ts</sup> (0.442)
	Traders	1.17	363.64	90.91	67.83	1.28 <sup>ts</sup> (0.329)
	Entrepreneurs	2.56	166.67	42.42	272.73	2.176 <sup>ts</sup> (0.274)
			1.71	140.91	56.82	124.25

Description:

\* = significant at the 10% error rate

\*\*\* = significant at the 1% error rate

Ts = not significant at the 10% error rate

Tda = can not be analyzed (sample number 1 respondent)

An interesting point from Table 12 that there were differences in the circumstances of farmers around the gold mining who remain be a farmer. They had a decline in income and significant at the 10% error rate, statistically. The decline income of farmers after gold mining of \$8.84 per month. This is caused by: (1) farmers had lost their primary livelihoods namely paddy rice farm because the irrigation water sources had been used by gold mining companies, and (2) farmers who keep farming rice paddy farm had decreased in production due to reduced irrigation water source that was used by most community groups did gold mining.

Should the presence of a gold mining could have a positive impact for communities around the mining area of good social, economic, and cultural. In the economic aspects, gold mining have no impact on improving the welfare of society, and even tends to lower the level of social welfare. In the social aspect, the community was in conflict with the government, corporate, and immigrant communities. In the cultural aspect, the community had lost local knowledge in natural resource management and lead to destructive behavior in the environment around the gold mining area.

In this regard, we need the active

involvement of various stakeholders (governments, companies, communities, universities, NGOs, and other parties) to jointly resolve the issue.

- Government as facilitator and regulator should supervise the companies or groups of people who do gold mining business and tighten mining license (IUP).
- The company should give special treatment in the form of corporate social responsibility (CSR) to the communities affected by the gold mining, the provision of facilities and infrastructures of education and health, venture capital, and training for farmers and women's groups in the village.
- NGOs and universities together to provide guidance to the public with regard to capacity building in the communities surrounding the gold mining area and to supervise the activities of mining companies.
- In particular, universities should conduct critical studies and science on the impacts of gold mining to the social conditions, economy, culture, and environment aspect of the communities around the gold mining area.

Required the collaboration of all parties to make the gold mining is prospering and sustainable communities.

## CONCLUSIONS

Based on results and discussion, it is concluded as follows:

- a. Gold mining have negative impact on social, economic, and cultural of communities around the gold mining area. Social, economic, and cultural

societies tend to be in better shape before the gold mining.

- b. Average income communities after the gold mining increase by \$68.67 per month. Farmers who switch professions to miners and miners/illegal logging has income increased each by \$76.66 per month and \$67.83 per month, while the farmers were still living as farmers has income decreased by \$8.84 per month.
- c. Gold mining do not increase the welfare of society, especially for farmers.

The implication of this study is government should strictly supervise and tighten even a moratorium against IUP, and gold mining companies should have corporate social responsibility (CSR) in the form of incentives to the affected communities of the businesses under their management in the fields of education, health, agriculture, economics, and culture as well as other aspects relating to the welfare of society.

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