CHAPTER IV

RESULTS AND ANALYSIS

Coal mining operations need control, supervision, work experience and good education levels of workers for preventing the dangers that are resulted from the mining process. The prevention of accidents in relation to work safety issues should be based and started at the concept of causes and effects of accidents, which controls the causes and reduces the impact of accidents. The direct causes of accidents are resulted from unsafe actions and unsafe conditions, thereby causing the cessation of human and the tools' activities.

A. The Role of Local Government in Supervising the Implementation of the Provisions on Work Safety for Laborer in the Mine Areas of Kutai Kartanegara

1. Supervision Conducted by the Government

According to Law No. 13 of 2013 on Labor, the Office of Manpower and Transmigration conducts work Supervision in the mining area in Kutai Kartanegara. According to the Head of Development of Labor Inspection, H. Dodi Iskandar, S.H,the interview was done on 5 November 2015 at 10.09 a.m and located in the Office of Manpower and Transmigration among the purposes of the monitoring done by the government are to identify the number of coal mining companies in Kutai Kartanegara, tools and materials

used by every company in mining area of Kutai Kartanegara that can be seen in Table 1 and Table 2 below.

Table. 1

The Number of Coal Mining Companies in KutaiKartanegara

No	Name of Subdistricts	Total
1	Samboja	73
2	Muara Jawa	108
3	Sanga-Sanga	101
4	Loa Janan	119
5	Loa Kulu Kota	76
6	Kota Bangun	33
7	Tenggarong	203
8	Sebulu	69
9	Tenggarong Seberang	138
10	Anggana	44
11	Muara Badak	240
12	Marang Kayu	31
13	Muara Kaman	38
14	Kembang Janggut	34
15	Tabang	36
16	Kenohan	1

17	Muara Muntai	3
18	Muara Wis	-
	Total	**1347**

Source: Sub Bidang Pengawasan Ketenagakerjaan Disnakertrans Kab. Kukar

Table. 2

Tools and Materials Provided by the Companies

No	**Tools and Materials**	**Total**
1	Steam engines	65
2	Lift-haul aircrafts	791
3	Heavy equipment	217
4	Diesel motor/ generators	307
5	Electrical installation	63
6	PMK	40
7	Distributors lightning	176
8	Elevators	17
9	Pressure vessels	121
10	Hazardous materials	5
11	Turbines	9
12	Bottle Steel	5
13	Scaffolding	58
14	Radioactive materials	27
	Total	**1.901**

Source: Sub Bidang Pengawasan Ketenagakerjaan Disnakertrans Kab. Kukar

According to observation result by the Head of Supervision Section of K3, The Office of Manpower and Transmigration, Surianto, S.sos., S.H, the mining haul roads are the most vulnerable areas to work accidents. The vulnerability is shown in Table. 3 below:

Table. 3

Vulnerable Areas

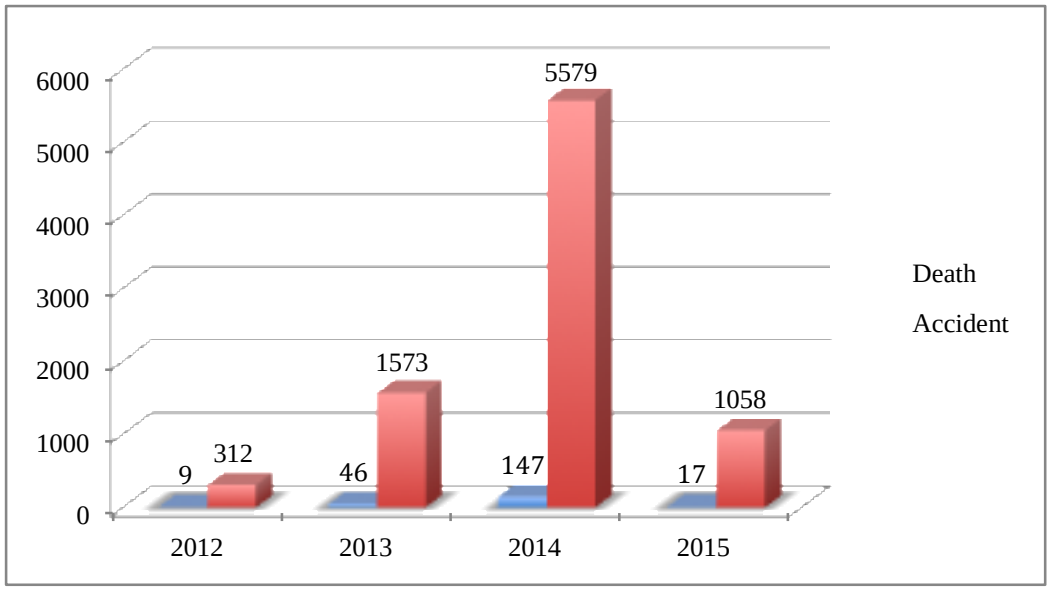
No	Location	Description
1	Coal Haul Roads	1. Slippery and possible landslide. 2. Extremely high dust concentration.
2	Coal Processing Area	Hazardous
3	Office Area and Repair Shop	Dangerous tools and Materials

Coal processing fields are vulnerable areas to accidents. At this area, there are many activities of coal outpouring, electrical installations and fuel stations. In this area, every worker should use APD in accordance with the type of work, should not allow unauthorized persons to enter the site, should ensure every worker to perform the job seriously and earnestly, and the installation of signs prone areas should be clear and visible. The calculation of accidents reports occurred in 2012-2015 at coalmine areas of Kutai Kartanegara is shown in Table 4 below:

Table. 4

Cases that Occurred in 2012-2015 at Coalmine Areas of Kutai Kartanegara

No	Year	Accidents	Deaths
1	2012	312	9
2	2013	1573	46
3	2014	5579	147
4	2015	1058	17
Total		**8.522**	**219**



The supervision is also reviewed from the facilities given by the company in overcoming the laborer accidents during work in the field, because safety facilities are playing important role in work safety. The Office of Manpower and Transmigration of Kutai Kartanegara Regency, in this case is the Supervision Section of Labor Inspection conducts routine check to the safety facilities owned

by coalmining companies in Kutai Kartanegara. The facilities provided by company are shown in Table. 5 below.

Table. 5

Safety Facilities Provided by Companies in Mining Areas to Overcome Accidents

No	Facilities	Total
1	P3K	609
2	Polyclinic	41
3	Doctors	41
4	Expert/K3 officers	8
Total		699

The government also handled the hygiene of the company to overcome the accident. The hygiene of the company is a part of solution to decrease the accidents happened in coalmining areas of Kutai Kartanagera. Some of the company's hygiene handled by the government is shown in Table 6 below.

Table. 6

Hygiene of the Company

No	Hygiene of the Company	Officers
1	Supervision of workplace	Supervision Section of Laborer Inspection
2	Supervision of work environment	Supervision Section of Department of Manpower and

		Transmigration
3	Supervision of Hazard	Supervision Section of K3
4	Examination of work equipment	Expert Officer of K3

2. Analysis of Accident Statistics

According to the Decree of the Minister of Mines and Energy No. 555.K/26/M.PE/1995 Article 47 on the statistics of mining accident, the mining accident statistics are set each year based on the level of frequency and severity of accidents that occurred in mine areas.

To know the Frequency Rate Accident and Severity Rate Accident, firstly we have to determine the number of working hours per year using the formulation as follow:

Number of working hours a day: 8 hours

Number of working days a year: 335 days

Number of workers: 133,241

Number of working hours per year from 2012-2015 = 8 hours/day x 335 days x 133.241= 35,485,880 hours.

2.1 Frequency Rate (FR) of Accidents

Frequency Rate (FR) indicates the frequency of accidents, namely in every one million working hours, there is the number of accident victims in the amount of FR.

- Figures of accident frequency/ Frequency Rate (FR) 2012

$$FR = \frac{\text{Cumulative number of accidents}}{\text{Number of working hours}} \times 1{,}000{,}000$$

$$= \frac{312}{35{,}485{,}880} \times 1{,}000{,}000$$

$$= 8.79$$

- Figures of accident frequency /Frequency Rate (FR) 2013

$$FR = \frac{\text{Cumulative number of accidents}}{\text{Number of working hours}} \times 1{,}000{,}000$$

$$= \frac{1573}{35{,}485{,}880} \times 1{,}000{,}000$$

$$= 44.32$$

- Figures of accident frequency/ Frequency Rate (FR) 2014

$$FR = \frac{\text{Cumulative number of accidents}}{\text{Number of working hours}} \times 1{,}000{,}000$$

$$= \frac{5579}{35{,}485{,}880} \times 1{,}000{,}000$$

$$= 157.22$$

- Figures of accident frequency/ Frequency Rate (FR) 2015

$$FR = \frac{\text{Cumulative number of accidents}}{} \times 1{,}000{,}000$$

Number of working hours

$$= \frac{1058}{35,485,880} \times 1,000,000$$

$$= 29.81$$

2.2 Severity Rate (SR) of Accidents

Severity Rate (SR) indicates that the company in 1,000,000 hours of productive time lost day at the value of SR.

- Figures of severity accident / Severity Rate (SR) 2012

$$SR = \frac{\text{Cumulative number of time lost days}}{\text{Number of working hours}} \times 1,000,000$$

$$= \frac{809}{35,485,880} \times 1,000,000$$

$$= 22.80$$

- Figures of severity accidents / Severity Rate (SR) 2013

$$SR = \frac{\text{Cumulative number of time lost days}}{\text{Number of working hours}} \times 1,000,000$$

$$= \frac{2070}{35,485,880} \times 1,000,000$$

$$= 58.34$$

- Figures of severity accidents / Severity Rate (SR) 2014

$$SR = \frac{\text{Cumulative number of time lost days}}{\text{Number of working hours}} \times 1{,}000{,}000$$

$$= \frac{6.076}{35{,}485{,}880} \times 1{,}000{,}000$$

$$= 171.23$$

- Figures of severity accidents /Severity Rate (SR)2015

$$SR = \frac{\text{Cumulative number of time lost days}}{\text{Number of working hours}} \times 1{,}000{,}000$$

$$= \frac{1.555}{35{,}485{,}880} \times 1{,}000{,}000$$

$$= 43.82$$

Frequency Rate (FR) and Severity Rate (SR) are used for calculating the accident statistics. It is not solely developed for research toward the prevention of accidents. Although if the purpose of research is the main objective. These statistics are important to explain to all parties concerned on the circumstances of safety, to give warning to potential dangers, to make them aware, and to give enough attention to the accident rate, and sometimes it is necessary to present statistical data.

The statistic indicates many differences when the frequency rate increase, the severity rate will increase more. Table. 7 above shows the comparison between FR and SR of accident

Table. 7

The Comparison between the Statistic of Frequency Rate and Severity Rate of Accidents in 2012-2015

No	Year	Frequency Rate (Number of accident)	Severity Rate (Time lost day)
1	2012	8.79	22.80
2	2013	44.32	58.34
3	2014	157.22	171.23
4	2015	29.81	43.82

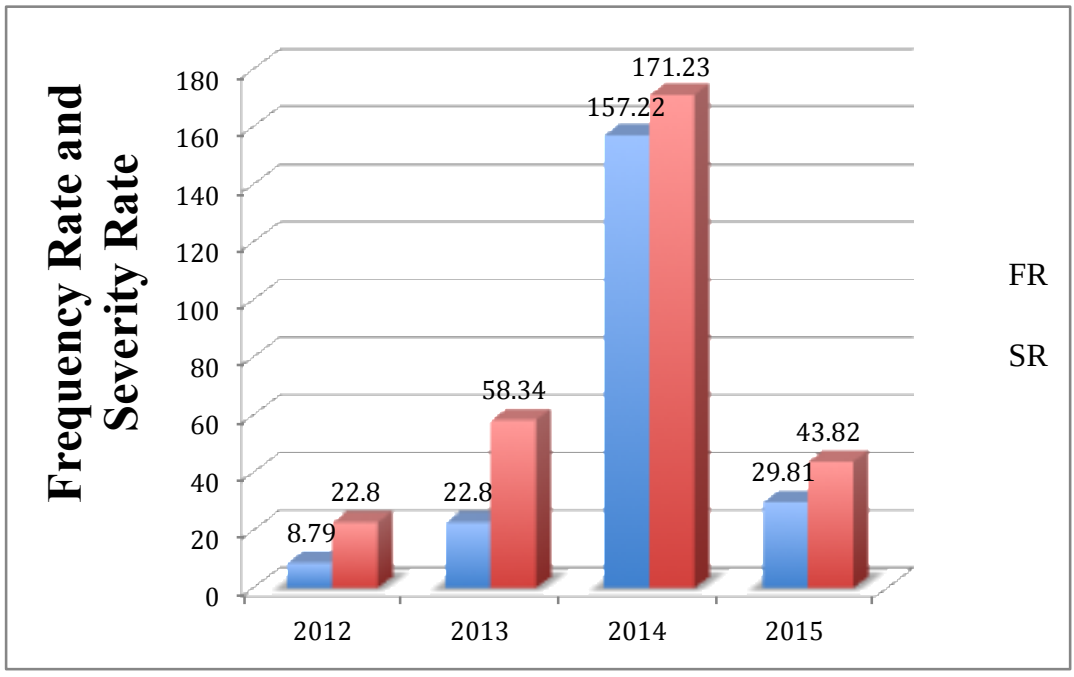


Table.7 above shows that by the increase of frequency of work accidents, the severity of the accidents also increases. Moreover, by the increase of the number of accidents, the time loss also increases.

a. In 2012, Frequency Rate obtained was 8.79. The figure shows that in every 1.000.000 working hours, there were 8.79 accidents victims. It is obtained from 312 accidents that occurred in 2012 due to unsafe acts and unsafe condition. The figure of Severity Rate obtained was 22.80 in 2012 because some incidents happened were leading to the loss of working days as many as 33 days. It shows that the figure of Severity Rate Accident in every 1,000,000 working hours, there were 22, 80 days lost.

b. In 2013, Frequency Rate obtained was 44.32. The figure shows that in every 1,000,000 working hours, there are 44.32 accidents victims. It is obtained from 1573 accidents that occurred in 2013 due to unsafe acts and unsafe condition. The figure of Severity Rate was obtained 58.34 in 2013 because some incidents happening led to the loss of working days, as many as 86 days. It shows that the figure of Severity Rate Accident in every 1,000,000 working hours, there were 58.34 days lost.

c. In 2014, Frequency Rate obtained was 157.22. The figure shows that in every 1.000.000 working hours, there were 157.22 accidents victims. It is obtained from 5579 accidents that occurred in 2014 due to unsafe acts and unsafe condition. The figure of Severity Rate obtained was 171.23 in 2014, because some incidents happening led to the loss of working days as many as 253 days. It

shows that the figure of Severity Rate Accident in every 1,000,000 working hours, there were 171.23 days lost.

d. In 2015, Frequency Rate obtained was 29.81. The figure shows that in every 1.000.000 working hours, there are 29.81 accidents victims. It is obtained from 1058 accidents that occurred in 2015 due to unsafe acts and unsafe condition. The figure of Severity Rate obtained was 43.82 in 2015 because some incidents happening led to the loss of working days as many as 64 days. It shows that the figure of Severity Rate Accident in every 1,000,000 working hours, there were 43.82 days lost.

The company's main goal is the achievement of production targeted with zero accident. However, from 2012-2015 the accident happened in Kutai Kartanegara increased due to unsafe act and unsafe condition. Accidents due to unsafe act took place because the negligence of the miner itself, the miners mostly did not obey the rules. Some of the miners sometimes forget to use their Personal Protective Equipment (APD). The supervision administered by the Office of Manpower and Transmigration in the field often found out that many miners who did not wear their APD.

Whereas, the accident due to unsafe condition happened because the weather conditions often changed. During the dry seasons the condition of coal mining areas become being extremely high dust concentrations and the driver cannot clearly see the roads. Within these conditions, the collisions often happen. While in the rainy seasons, there are also possible landslides

and slipping of vehicle due to the slippery road. Data of accident caused by unsafe act and unsafe condition are show in Table. 8 below.

Table. 8

Data of Accident Due to Unsafe Act and Unsafe Condition of 2012-2015 in Kutai Kartanegara

No	Year	Unsafe Act	Unsafe Condition	Total
1	2012	219	93	312
2	2013	1.049	524	1.573
3	2014	4.185	1.394	5.579
4	2015	847	211	1.058
Total		6.300	2.222	8.522

The cause of the accident is mostly due to unsafe actions from the data above. The data showed iteration causes of accidents which occurred in 2012, 2013, 2014 and 2015, thereby, the zero accident is failed to be reached.

3. The Percentage of Accident Causes

Accidents happen in coalmine areas of Kutai Kartanegara are directly caused by unsafe acts and unsafe condition, which resulted in activity cessation for both humans and the tools. As shown in Table 4 above, the total accidents in coalmine areas of Kutai Kartanegara are 8.531 accidents during

2012-2015. Based on the calculation, the accident percentage is shown in Table. 9 below.

Table. 9

The Percentage of Accident Causes in Coalmine Areas of Kutai Kartanegera

No	Causes of accident	Total Accidents	Percentage
1	Unsafe Acts	6.300	73.92%
2	Unsafe Condition	2.222	26.08%
Total		8.522	100%

4. The Role of the Local Government in Supervising the Implementation of the Provisions on Work Safety for Laborer in Mine Areas of Kutai Kartanegara

High rates of work accidents show the ineffectiveness of provisions concerning work safety in the coal mining areas of Kutai Kartanegara. To overcome this problem, the local government did intensive monitoring of the implementation of the provisions of safety in the coal mining company in Kutai Kartanegara. There are some roles of the local government which has been run in supervising the implementation of the provisions on work safety in coal mine areas as follow:

a. Socialization of the provisions on work safety

The socializations done by the Local Government of Kutai Kartanegara are among others in the form of: 1). Installation of noticeboard of work safety in the coalmine site area; and 2). Publication

and distribution of guidance books and poster on work safety to the companies and laborers.

b. Training and Improvement of Labor Productivity to the laborers concerning on the implementation of provisions of work safety

The efforts done by the government concerning on the implementation of provisions of work safety are giving training and improvement of labor productivity to the laborers. Article 10 of Local Regulation of Kutai Kartanegara No. 18 of 2013 on Labor Organization mentions that "Work training of the Local Government Institutes are conducted by the Office which have the duties and responsibilities in the field of labor".

In disseminating the importance of work safety, the Local Government did the training. The Training carried out by the local government is education in the form of courses and training on usage of all work equipment. To prevent the accidents, all laborers need training on work safety in order to eliminate potential dangers in the workplace.

The training material was made and presented in an interesting manner and really made the laborers to know and understand. Material providers must ensure that trainees can see and understand the whole materials. When trainees do not really understand how to do the job, it will be very dangerous when they are released to work in the field of coalmine. Therefore, the material presented must be packaged properly

and easy to be understood and should be in the form of written and practical tests, in order to determine whether the trainees can absorb the extent of materials already given.

c. Supervision, based on the Government Regulation No. 50 of 2012 on Application Management System Safety and Health of Work, Article 18 is accomplished to:

1) Ensure the development and implementation of commitments;
2) Organization;
3) Human Resources;
4) The Implementation of Provision of K3;
5) Security work;
6) Inspection, testing and measurement application SMK3;
7) Control emergencies and industrial hazards;
8) Report and repair deficiencies; and
9) Follow-up audit.

d. Sanction to the company which commits violation

The local government in supervising the implementation of provisions of work safety should work together with the coal mining companies in Kutai Kartanegara. In fact, several companies do not obey the provisions properly. Companies do not pay attention to some of the problems leading to the increases of accident rate.

According to Local Regulation of Kutai Kartanegara No. 18 of 2013 on Labor Organization, Article 68 mentions the stage of administration sanction, such as:

1) Oral Warning
2) Written warning
3) Cancellation of business activity
4) Suspension of business activity
5) Cancellation of agreement
6) Cancellation of registration
7) Temporary suspension of part or all of production equipment; and/or
8) License revocation

In running the supervision of the implementation of provisions on work safety the local government of Kutai Kartanegara gives the warning to the company, which commits violation in order to reduce the accidents in coalmine areas. The number of companies already warned by the Local Government shown in Table 10 below.

Table. 10

The Number of Companies Receiving Warnings from the Government

No	Year	Total
1	2012	17
2	2013	34

3	2014	70
4	2015	23

In fact, the warnings given by the government still do not have effects to reduce the accidents in coalmine areas, because some of the companies do not pay too much attention regarding this matter.

B. The Obstacles Faced by the Local Government in Supervising the Implementation of Provisions on Work Safety in Mine Areas of Kutai Kartanegara

In supervising the implementation of work safety there are always obstacles faced by the local government. The obstacles faced by the local government in supervising the implementation of the provisions on work safety in the mine area of Kutai Kartanegara are as follow:

1. Lack of awareness of the company and laborers in applying the provisions of work safety

   Work safety can run well if the company and the laborers want to obey the rules. Accidents can be prevented if the companies have awareness in settling the accident problems. When an accident happens, a company should report to the Local Government. According to Law No. 7 of 1981 on Labor Compulsory Reporting of Company, Article 6 mentions that one of the reports must contains the protection of labor. It means that all of activities including the accident which happens to the

laborers have to be reported to the Local Government. The report will make the Local Government easier to do the investigation on the spot. In fact, the companies still conceal the accident and choose to solve the problem secretly without any intervention from the Local Government.

Not only should the companies run reports, but also they obligate to implement the control measure. Based on the Government Regulation No. 50, 2012 on Application Management System Safety and Health of Work, Article 11 stated that the companies should do the control measure. According to the supervision of the Local Government, the area of coalmine is the potential accident area. Therefore, the companies should concern to the potential area of accident. In fact, companies do not really concern on this matter. They think the area is safe from accidents and such a thought frequently causes frequent occurrences of accident, as shown in Table 11 below.

Table. 11

Potential Area of Accident in Coal Mine

No	Condition	Locations	Description
1	The condition of several roads that are not congested and slippery during the rainy season due to the high rainfall.	Coal Haul Roads	In the rainy season, the roads are not in congested condition and they can harm the vehicle passing as they are slippery, and

			there are also possible landslides. The avalanche on the coal haul road proves this.
2	Cramped roads and very sharp bends	Coal Haul Roads	The roads were too cramped for two vehicles which passed each other from opposite directions, and the bend is too sharp, so it is very dangerous if two vehicles passed from the opposite direction.
3	Extremely high dust concentrations	Coal Haul Roads	The concentration of dust in the coal haul road is very high. It causes the accident, as the vehicles coming from

			opposite directions in the coal mining cannot clearly see one to another.

Source: Sub Bidang Pengawasan Ketenagakerjaan Disnakertrans Kab. Kukar

From Table 11 above it can be seen that caul haul roads are the most dangerous area and companies should give a concern to this area. To overcome this problem, companies can plug the sign to remain all laborers that the area is dangerous. Moreover, in fact, there are not enough traffic signs used by the company in mining areas. Some signs that required plug in the mine areas are:

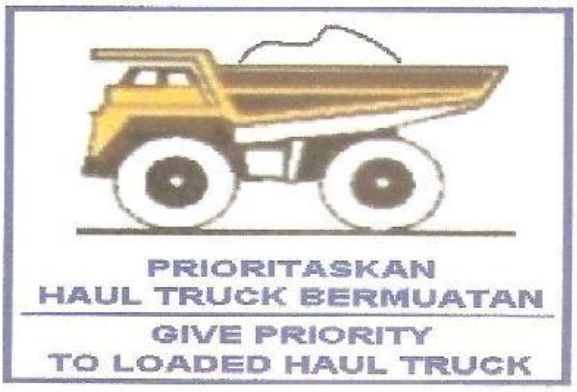
Figure 3

Vulnerable Landslide Signs

Signs of vulnerable to landslides can be plugged in areas with frequent landslides, so that the driver or anyone passing through the area will be more careful.

Figure 4

Prioritizing Loaded Truck Signs



Plugs on segments where the coal haul road are required to queue when the two vehicles from the opposite direction will pass. These signs can be installed in segments of dangerous coal haul road.

Figure 5

Mandatory Areas for Ear Plugs and Face Mask

The sign has to be placed in all areas of coalmine, to remind all laborers to use personal protective equipment to maintain safety.

Based on the Guidelines for Safety and Health of Work based on the Decree of the Minister of Mines and Energy No. 555.K/26/M.PE/1995 on Safety and Health of Work of General Mining in article 4 point (3) “the obligation of company is providing all tools, equipment, personal protective equipment”. Some of APD are:

Figure 6

APD (Personal Protective Equipment)

No	Personal Protective Equipment		Usage
1.	Helmet		Useful as safety gear to prevent injuries in an uncontrolled environment. A helmet can prevent or minimize injury to the head and brain.
2.	Vest		To keep personnel visible to other people especially when working along roads.
3.	Shoes		To protect the feet from hazards such as heavy objects.
4.	Goggles		Safety goggles protect people’s eyes from threats in dangerous locations from chemical splashes, particles and other potential dangers.

5.	Mask/Respiratory		As the inhaled air filter when working in a place with poor air quality, in various mining areas many scattered dust, which can cause health problems in breathing.
6.	Gloves		Gloves defend the user's hands from general risk. These items may protect from occupational hazards as well as recreational risks where the hands are heavily involved in the completion of a task.
7.	Ear Plugs		To protect the ear while working in noisy place. The use of this earplug prevent workers became hearing impaired due to exposure to noise in the work area which has a high noise level or working with equipment that emits high noise.
8.	Boots		The condition of mining area generally slippery and muddy, in that condition boot is needed. Using shoes will only cause foot deep in mud.

			Boots must also be equipped with metal-coated soles to protect the toes.
9.	Harness		To protect the miner while working at height. The tool must be used when working at heights greater than 1.8 meters.
10.	Belt		Used while the miner us transportation or other similar equipment (cars, heavy equipment, aircraft, helicopters, etc.).
11.	Raincoat		To protect the miner from splashing water while working (working in the rain or washing tool).
12.	Face Shield		To protect the face from debris or other hazards. Face guards and face shields must provide protection from hazards but also ensure that an operator's visibility and mobility is not hindered. Face shields are commonly used in metalworking and utilities applications, and for operators working on

			welding, grinding, or cutting machinery.
13.	Headlamp		These safety devices are usually specifically used in underground mining. Night and day in the tunnel there is no difference, equally dark and headlamp required to be worn.

Accidents in coal mine areas also happen due to the negligence of laborers. Laborers do not pay attention that their action can be trigger of accident. Based on the the Decree of the Minister of Mines and Energy No. 555.K/26/M.PE/1995 on Safety and Health of Work of General Mining, article 32 on the Obligation stated that "All laborers should comply the provisions of safety and health of work". But, laborers are still lack of awarness on their safety. Some actions are not done by laborers that become trigger of accident shown in Table 12 below.

Table. 12

Action of Laborers, which become trigger of accident

No	Action	Locations	Description
1	Not wearing APD completely	Coal Processing Area	There are workers who are not wearing APD, especially helmets, glasses and earplugs. Sometimes they even do not wear sandals to the mining area.
2	Smoking near fuel gallons	Coal Processing Area	Nearby fuel gallons, people are frequently seen relaxing while smoking.
3	Working while joking with each other	Coal Processing Area	There are workers who are joking with other workers.
4	Unsafe driving	Coal Processing Area	Not heeding the signs of traffic.

Source: Sub Bidang Pengawasan Ketenagakerjaan Disnakertrans Kab. Kukar

The action of laborers in ignoring the circumspection and personal protective equipment (APD) becomes the reasons of accident. Based on the data of the Department of Manpower and Transmigration, there are many reasons why laborers ignore the APD shown in Table 13 below.

Table. 13

The Reasons why Laborers Ignored the Personal Protective Equipment (APD)

No	Personal Protective Equipment (APD)	Reasons to ignore the APD
1	Helmet	a. The helmet provided by the company is not comfortable to wear because it is too short. b. Feeling that a job or activities are not harmful, especially to the head.
2	Glasses	Glasses provided by the company are not feasible to be used because the glaring effect during the day and are too dark at night.

3	Ear plugs	Feeling unfamiliar when working with ear plugs
4	Mask	Feeling difficult to breathe when using mask
5	Vest	Feeling that a work does not require vest usage
6	Gloves	Feeling unfamiliar and uncomfortable when working with gloves.

From the table above, it can be known that laborers do not have the awareness of the safety to reduce the accident. Laborers just attach the importance of their convenience and ignore the safety.

2. Lack of human resources and completeness of Local Government in supervising the company

Some of the factors that influence the ineffectiveness of supervising are the human resources and completeness of local government. Table. 1 above shows there are 1.347 coal companies in Kutai Kartanegara, but the human resources of the local government are still limited and the local government still need for recruiting more experts and K3 officers to conduct check routine, considering there are many coalmine companies in Kutai Kartanegara. According to the Head

of Development of Labor Inspection, the experts and K3 officers that conduct the supervision only 25 supervisor, and not comparable with the number of companies in Kutai Kartanegara. These 25 supervisors from the Local Government cannot perform supervision completely each year.

Moreover, the area of coalmine also becomes the consideration, the caul haul road is one of the dangerous field in the area of coalmine. The Local government has limitation tools and transportation to reach all areas of company. In addition, the local government still needs more resources which are adequate to do supervision in dangerous areas.

3. Low of Level of Education, Knowledge and Skills of Laborers in Fieldwork of Coalmine

To reduce the accident, education also becomes the consideration. The companies in the recruitment of laborers have to consider the education of laborers and put the laborers based on their ability. However, in the recruitment, the company still employs the laborers that have low of education. The data of education level of the laborers working in coal companies in Kutai Kartanegara are as seen in Table 14 above.

Table. 14

The Education Data of Mining Areas Laborers of Kutai Kartanegara

No	Education	Total Laborers
1	SD	7,098
2	SMP	36,147
3	SMA	84,435
4	D3	2,644
5	S1	4,987
	Total	135.311

Source: Sub Bidang Pengawasan Ketenagakerjaan Disnakertrans Kab. Kukar

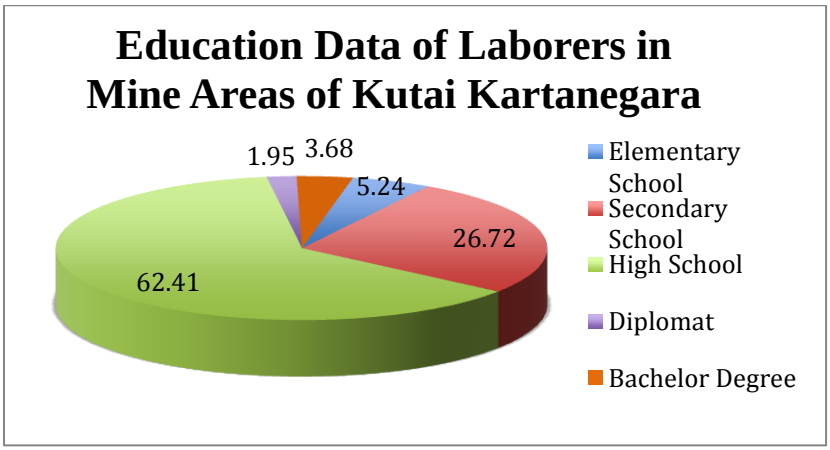
Table 14 above shows that the education level is still very low. The activities in coalmine are dangerous activities and laborers that have low education do not have the ability to do the job because the activities are relying on physicality. Based on the monitoring of the Local Government of Kutai Kartanegara, many laborers which possess low education do the dangerous job. For example, based on the supervision conducted by the Local Government, it is found that the job of bombing of coalmine was carried out by Laborers which graduate from High School. The activity may affect workplace accidents due to heavy load of physicality and it can result fatigue, which is one of the factors influencing the occurrence of accidents.

Coalmine activities cannot be separated from the physical activities with very high risk. Consequently, these activities need professional or proficient persons. In fact, there are still many laborers that have low education, and do not have skills to do the high risk activities. Companies do not assign the jobs for laborers in accordance with their abilities. The companies, even, put the low education laborers in dangerous of fieldwork.

The local government makes the percentage of laborers in Kutai Kartanegara to know the percentage of laborers with low education as show in Table 15. The table shows the percentage of laborers in mining areas of Kutai Kartanegara still have low education; the majority of laborers in Kutai Kartanegara are elementary school, secondary school and high school graduates. It can be seen in the percentage level of education of the 135.311 laborers.

Table. 15

The Percentage of Education Data of Laborers in Mining Areas



From the percentage above, it can be determined that the majority of laborers are high school graduates with a percentage of 62.41%. As proven, some cases of accidents were caused by human actions, which mostly happened to elementary school, secondary school and high school graduates. Without any change in the recruitment of laborers, the accidents cannot be prevented because the laborers are not professional or proficient persons.