

## **The Unsafe Methods of Coal Mining in Balochistan A case study of Mach coal fields at tehsil Mach district Kachi**

*Social Sciences and Humanities*

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### **Abstract**

*Coal is the biggest source of energy and economy in all over the world, the coal provides the cheapest way to produce energy, the situation in all over the Pakistan especially in mining field is very much changed, thousands of workers die at work places irrespective of fields the workers in Pakistan face many problems regarding the safe working conditions at working areas or workplaces, the primitive methods are being used in industries for production, the workers are compelled to work in such inhuman situation or conditions, The mining industry in Pakistan is one of the most ignored industry, however the situation in other provinces as compare to Balochistan is satisfactory because the mining industries in Balochistan are unfavorable for the workers due to unsafe and unhealthy working conditions, though the mining sector is playing a vital role in the economy of province, The injury trends in Balochistan coal fields are very much high, every year thousands of workers lose their lives in this sector, in injury rates in all over the globe Pakistan ranks 25<sup>th</sup>, when the mining sector of Pakistan is compared with developed or neighboring countries such as USA the injury rates in Pakistan much higher. Even in this case India and china have better ratio in injuries, workers lack all the basic facilities, regarding the safety tools in coal mining the literature review reveals that the situation in all six coal fields of Balochistan is similar, the death and injuries rates are high.*

**Key Words:** Coal mining, Coal workers, Unsafe mining, Working environment, Safety tools,

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## **1. Introduction**

Balochistan is situated on triangle, it shares borders with Iran Afghanistan and costal line with Middle East countries, it is the largest province of Pakistan it covers 43% land, the province is famous for its natural resources, the province is rich in natural resources because the land of Balochistan is mostly mountainous which are full of natural minerals, but unfortunately the mining industry in Balochistan is not given the value which it needs or requires because the mining has never been treated as industry it has been ignored by the provincial and federal government especially in small scale mining or where the mining is carried out by the private firms.

The province has six huge coal fields at Mach, Sore-range, Deghari, Chamallang, Marward and Duki and all the coal fields are situated near the Quetta district the capital of Balochistan.

In all the coal fields of Balochistan underground coal mining is carried out, there are two hundred and forty (240) coal mines where some sixty thousand (60000) workers are working (mines and minerals department 2008). Like other minerals the coal mines are also leased to the private owners or firms and the firms are regulated through the mine act of 1923, but due to weak check and balance the all stockholders do not understand the mining act 1923 neither owners nor concern departments. It means the act of 1923 is not implemented fully, though it does not full fill the current requirements in coal fields because according to 1923 act the coal mine workers must be provided all safety tools before, entering into coal mine it also defines the working hours that must not exceed eight hours and six days in a week but worker at coal fields mostly work 10 to 13 hours per day which causes many issues related to their health and occupation.

The coal fields owners are not able to control any accident or even they are not able to provide first aid in the case of minor injuries. In the case of major injuries, the concerned departments do not have rescue teams, the workers themselves work in the emergency or rescue their friends. The coal mining is carried out in all over the Balochistan with the help of primitive methods, the coal mines are still supported with wood or have wooden support, still the coal mine workers do not know the modern techniques of mining, in order to check the dangerous gases inside the coal mine the caged bird is sent inside the coal mine if the bird gets alive it means there is no any dangerous gases, if it shrinks at outside the coal, means there are some dangerous gases or if the bird loses its life it is considered that the coal is full of dangerous or methane gases. The other

method to check the dangerous gases inside the coal is to send a lamp inside the coal mine if it is lighting it means there are no gases but these all primitive methods cause large number of losses every year.

Mach coal field are located some 60 km far from Quetta the capital of Balochistan , the Tehsil is situated in the famous Bolan valley which is some 104km long way towards the hottest city of Balochistan Sibi , Mach Tehsil comprise of three union councils, while collecting data related to the universe of study it came into our knowledge that the whole Tehsil is deprived of all basic facilities, means the common population also lacks all basic facilities such as Educational institutes, hospitals even not having the road and telecommunication facilities. Facilities regarding health the whole tehsil has Four BHUs, that also lack basic health kits such as ambulance and first aid kits further, it was revealed in study that there is no any physician or surgeon in these BHUs. The doctor who was found in Mach town BHU he is simple MBBS and he agreed that they lack all basic requirements related to their field.

According to the report published by Balochistan point that the health situation in Balochistan is worse than other provinces according to them eleven million children die before reaching to age five. The infant mortality rate is shown 97/1000. The other reports tell that 27 doctors have been killed in different areas of province, sixteen have been kidnaped and 40 have been tortured, due to such a unsecure situation the doctors avoid to join the hospitals in rural areas.

There is no specific hospital for the coal mine workers as it is the biggest source of livelihood in tehsil but, the workers mostly consult private clinics in Quetta or Sibi, the workers even do not have residential areas where they can live with their families. At Mach coal fields, the workers mostly live nearby the coal fields, it means the living area and working area are at one place where they are living, it is a fact that all around the world where mining is carried out that is not suitable for living because of unsecure structure and threat of different health hazard which are produced by the coal mining.

## **2 The study area**

No doubt Balochistan is bucket of natural minerals and all around it the long and high mountain ranges have millions of tons of minerals inside. Coal is also one of the biggest mineral found in province, recently province shares six coal fields where the Mach coal field is one of them. Mach town or city is situated some 60km from the provincial capital Quetta. Inside the tehsil the all coal fields are situated nearby the Mach

city which is very mountainous area. Mach city is also famous for its jail which was constructed in 1929 by the British government it also shares a huge valley of Bolan. The Mach city is one of the beautiful sites in Balochistan.

- **The target population**

The target population of this study is coal mine workers, there are 58 coal fields at Mach tehsil out of them 40 coal field are being mined, the total number of coal mine workers are not conformed because the coal mine workers are hired privately by the private contractors that is the reason why the coal mine department does have the data of workers, according to them in these coal mines some one thousand to twelve hundred coal mine workers are engaged.

## **2.1 Sample unit and sample size**

The unit of this study is individual, meaning coal mine worker. The systematic random sampling was carried out to complete this study from twelve hundred coal mine workers, the target was 300 hundred coal mine workers.

- **2.1.2 The Mixed Research Methods**

The method which can give best result to the researcher or the method which can full fill the requirements of its research objectives or the approach which is being adopted by the scholar in the study (Gerson & Horowitz, 2002). The experts have recommended several methods to investigate or to study the safety methods or tools at coal mines but for the said study where mixed methods are being used that must be proper method but it is necessary to say and listen in their own words (Berkowitz, 1996, p. 54).

## **2.1.3 Method of Data Collection**

Different type of methods were used to collect data such as questionnaire, interviews, focus group discussions, report building, key informants, and researcher observations.

## **3.1 The Unsafe Methods of Coal Mining**

In today's 21<sup>st</sup> century where world is changing its trends in all fields, it is absolute that today mostly work is being done by the large or small machines. Before industrialist era huge number of human resource was required, but mostly such a situation is seen in developed countries, the underdeveloped countries are still facing huge problems while using these

machines because, in developed countries the workers are losing their lives due to unsafe methods or unsafe usage of these machines but, the situation is very much changed in Pakistan irrespective of fields because the reports tell that the workers are losing their lives daily from different fields, especially the mega cities such as Karachi , Lahore and Faisalabad where the industries are situated and the situation in other fields such as mining is not satisfactory. If we talk about the mining sector in Balochistan which is the heart of natural minerals the workers here also lack all the basic facilities whether related to their health or safety. The workers mostly in the all coal fields of Balochistan are prone to many hazards, the accidents are common in these fields yearly huge number of workers lose their lives or get serious injuries which makes their life miserable. The objective of this study was to investigate the safety methods in coal mines of Tehsil Mach, the situation in Mach coal fields were depicting the same picture which is being depicted all over Balochistan because here also the workers are facing several issues related to their safety.

According to the report published by ILO that more than two million workers lose their lives annually due to accidents at work places. Ali, M. Z. (2005). Pakistan is full of natural resources including coal which are being mined by the thousands of workers in all four provinces but, the working conditions of coal mine workers very much poor in these fields every year several deaths are caused, the state departments have not been able to control these accidents. According to the report From Newline, April 2006\_that majority of the accidents happen in coal mines due to unsafe methods.

### **3.1.2 Safety Tools Used by Coal Mine Workers**

The situation related to their safety of coal mine workers is not good enough, in order to view their condition regarding the safety and the methods which are carried out in mining, the workers in Mach coal fields are giving their complete life to this occupation. It is revealed in data collection that the none of the workers have uniforms while going into the black holes.

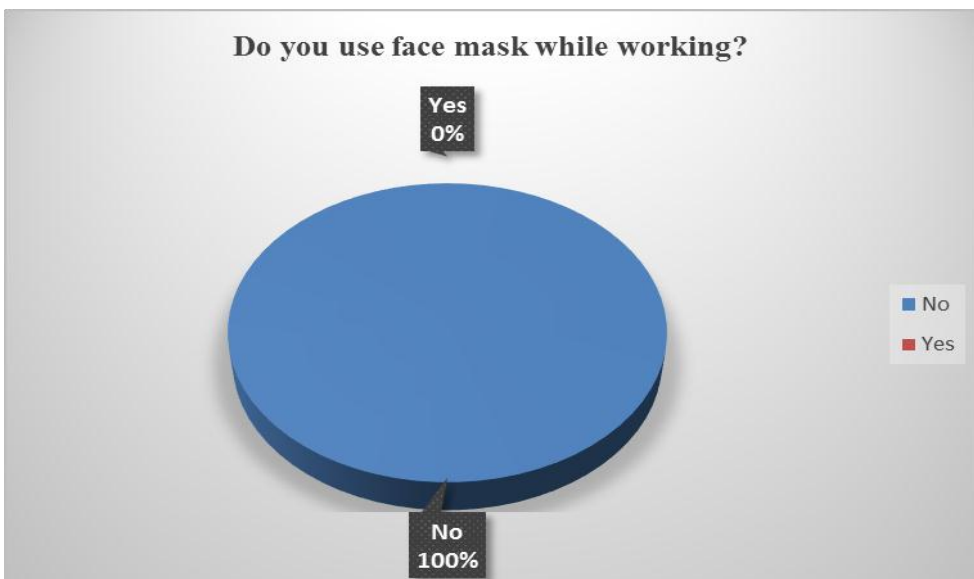
In this study the workers are asked about the safety tools which they use while in mining, the workers still have the same primitive methods, the coal mines still do not have proper ventilation system, the workers still use the iron axe for the digging but now the contractors have introduced drilling system in coal mines which is being used for drilling with the help of air pressure, accruing to the workers this method of mining is more

dangerous than the mining which was carried out with the help of axe because, while drilling it produces dust more than that, dust is inhaled by the workers because of not having good ventilation system second due to this method mostly stones fell down which causes injuries mostly at backbone,

### 3.1.3 The Pillar System

All the countries are trying to improve the safety tools in their industries and in mining sector but we still lack basic tools and still the coal mine workers in Balochistan are using the mining methods which were being used in British era before the partition. The literature review reveals that even the coal mining which is carried out in India and china which is improving its shape especially in the case of safety at workplace, the developed countries where the mining is being done especially United States where the coal mine workers are using hydraulic machines and hydraulic pillar to support the mine. The situation in Mach coal fields even not only in Mach coal fields but all six coal fields of Balochistan the same methods are used to support the coal mine with the help of wood, and the wood which is use for support is not able to control the weight of one metric ton but it is used to support the whole mountain. However, the wooden pillar are not safe for mining.

#### 3.1.4 Do You Use Face Mask While Working at Coal Field?



The above chart shows that the basic safety tool which is must be used by all who are engaged in coal mining weather they work inside the coal or outside, the face mask is very much necessary but according the result shown in above chart, the question is asked to all the target group and none of the workers uses face mask to protect themselves from coal dust which causes different type of chronic diseases among the workers. It is also observed in data collection that the workers who are related with this occupation are prone to many diseases because of unsafe mining. Further it is described by the workers that they are not provided anything by the contractor regarding their safety weather form diseases nor from accidents inside the coal.

### 3.1.5 Do you use goggles while working at coal field?

The workers who are attached with coal mining or with this occupation are show a very much dark picture because they lack all basic facilities regarding their safety at workplace. However, it is difficult to survive in such situation where there are no safety tools related to their physical and mental health, the workers at Mach coal fields are not satisfied with their occupation due to facilities provided for their safety or for safe working environment,

The following table shows the ratio of workers who uses goggles as safety tool

| Respondents using goggles while mining | Frequency | Percent |
|--|-----------|---------|
| Yes                                    | 1         | .3%     |
| No                                     | 299       | 99.7%   |
| Total                                  | 300       | 100.0%  |

Table 1

The above table shows the percentage of workers who are using goggles for safety or as safety tools according to the table only .3% workers at Mach coal fields are using goggles the rest of the 99.7% do not use even goggles for their safety which causes different typed of injuries to their hands and further it causes several skin diseases to their hands, even workers at Mach coal fields are not aware of the usage of goggles as safety. During the study majority of the workers complain that they are not

provided such a kit where they can save their hands and the city nearby them is Mach town such a things are also not available there, where they can buy for themselves for the safety of their complete body or hands second the lack of awareness is compelling them to work in such unhuman situation. According to them no one needs to ask us about such a safety kits, contractors are concerned with coal production they do need to ask us regarding the production of coal and the inside situation of coal mine because from their they get money however that is precious for them not workers because mostly one worker is replaced by other so in such a situation the owners or contractors do need to provide us safety tools because without providing such a kits the coal production is carried out on daily basis on same level and there is no one or any department to inquire this type of questions from the owners or contractors because in such corrupt system these type of activities are normal

### 3.1.5.1 Any Accident While Working in Coal Mine?

The following table shows the percentage of accidents which happen while in coal mining

| <b>Accidents while working in coal mines?</b> | <b>Frequency</b> | <b>Percent</b> |
|---|------------------|----------------|
| Yes   | 64               | 21.3%          |
| No  | 236              | 78.7%          |
| Total   | 300              | 100.0%         |

Table2

The above table shows the percentage of accidents at Mach coal fields while working inside the coal according to the table 21.3% workers get accidents while working in coal mine the ratio is very much high in the perspective of Mach coal field because if the situation continues in same manner than in near future it would be showing dark picture due to unsafe method of coal mining the majority of workers would be losing their lives or due to accidents they would be losing their body parts and coal mining would be the most dangerous and hazards occupation in Balochistan.

## 4 Type of accidents while working in coal mine

| <b>Types of Accidents</b> | <b>Frequency</b> | <b>Percent</b> |
|---------------------------|------------------|----------------|
| Mine Collapsed            | 9                | 3.0%           |
| Stone Fell down           | 40               | 13.3%          |



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|                      |    |       |
|----------------------|----|-------|
| Electricity shock    | 7  | 2.3%  |
| Fell down from track | 8  | 2.7%  |
| Total                | 64 | 21.3% |

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Table3

If we see the percentage and types of accidents which happen in coal mines the situation or the condition is overall due to unsafe methods which are being processed in coal mines or Mach coal fields, because the majority of accident can be controlled by the help of providing safety tools and introducing such safe methods where workers can work without dangerous or hazards. The above table shows that 13.3% accidents are caused due to stones which fell down inside the coal mine due to which they workers mostly face backbone issues and it also causes serious injuries to their head because of not having safety tools for their body however the safe methods does not just require covering their body it also needs safe methods of mining such as good and durable pillar system which can help to control the stones felling down due to which the workers get injuries.

Since the British era the luggage or track system for loading and unloading the coal from the coal mines is mostly dangerous. Many time the broken rope has caused many serious injuries to those workers who work inside the coal mine the above chart shows 2.27% workers have face accidents due to tracks which are used for taking out the coal.

The other reasons which cause accidents at coal mines such as electric shocks because the without electricity it is impossible to mine, the coal mine needs to take out its water by different type of water sucking motors, for drilling and lightening the electricity is required inside the coal but it needs good electronic system to complete these all above tasks, recently the electronic systems which are provided to the coal mines do not full fill the above all tasks.

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