STATUS OF COAL MINE WORKERS IN BANGLADESH:

DESCENT WORK CHALLENGES IN BARAPUKURIA

STUDY REPORT

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OSHE’S STUDY REPORT ON STATUS OF THE COAL MINE WORKERS OF BANGLADESH
EXECUTIVE SUMMARY

Bangladesh is passing very vulnerable situation in energy sector. The possible sources and raw material which can be converted into energy are also limited. One of the possible mine is coal which could be used for energy production. Till now five coal area has been
identified whereas only Barapukuria Coal Mine is under production. Coal mine production is largely dependent on the underground workers. As per project proposal, there is a scope of employment for 2610 labors but only 1086 are practically engaged. Beside other problems in the present coal mine area, labors are also suffering from some basic problems. Considering this situation, the present piece of study was undertaken to know the present status of Barapukuria Coal Mine workers, their problems and to recommend a practical guideline to solve the problems. To the best of knowledge, this is the first study which is enlightened such problems. Some of the problems are very important but taking minor initiative may solve these. For example, one such problem is washing and drying of used cloths. Washing and drying machine is existing there but need an initiative to run this machine. Another core problem is Chinese doctors who do not understand Bangladeshi labors. appointing Bangladeshi doctor can solve this problem. On the other hand there are other major problems which need attention at government level. Appointing a Chief Mine Inspector according to Mine Act 1923 would be an obligatory for the government which will ensure working conditions for the workers. Other problems like profit bonus, mining allowance, labor rationing etc. should also be fixed by governmental initiative. Besides, there are some problems which need initiative from government level and executable by the company in operation. One such problem is safety related training for the workers. Government should ask the company in operation to conduct this kind of safety training for all workers.

1. INTRODUCTION
1.1 Background

The Energy Sector of Bangladesh is characterized by very low per capita usage of energy. As a result the country is suffering from acute energy shortages and this is adversely affecting the economy. For proper economic development of a country the need for reliable sources of different types of fuel is essential. At present for energy supply, the country is mainly dependent on natural gas, traditional fuels and imported fuels. Because of deforestation, supply of traditional fuels are decreasing and becoming expensive day by day. The reserves of natural gas now being used extensively for production of electricity and fertilizer. Significant portion of export earning is being used for import of petroleum products and coal. For rapid economic development of the country, it is essential to find out alternative sources of indigenous commercial fuels.

1.2 Coal Reserves of Bangladesh

The total coal reserves in 5 coal fields of Bangladesh are estimated to be 2.9 billion metric tons (this energy is equivalent to 67Tcft of gas). Recovery rate of coal from reserves varies with the choice of technology and method of mining. If modern mining technology can be adopted ensuring strong regulatory supervision and monitoring about 85% coal from Barapukuria, Phulbari and Dighipara can be recovered. Khalaspeer can be ideal candidate for Coal Seam methane while we can wait for some years for technological development for mining giant Jamalganj coal mine. The energy content of our mineable coal from three shallow depth mines of the five discovered mines is equivalent to 30Tcft of gas. This can be enough for our energy security for 30 years if properly mined.

Table: Coal Reserves in Bangladesh
<table>
<thead>
<tr>
<th>No.</th>
<th>Place/ Field (Discovery)</th>
<th>Depth (Meter)</th>
<th>Area (Sq. Km.)</th>
<th>Proven Reserve (Million Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Khalashpeer, Rangpur (1995)</td>
<td>257-483</td>
<td>12.00</td>
<td>143 (GSB), 685 (Hosaf)</td>
</tr>
<tr>
<td>3.</td>
<td>Phulbari, Dinajpur (1997)</td>
<td>150-240</td>
<td>30.00</td>
<td>572</td>
</tr>
<tr>
<td>4.</td>
<td>Jamalganj, Jaipurhat (1965)</td>
<td>900-1000</td>
<td>16.00</td>
<td>1050</td>
</tr>
<tr>
<td>5.</td>
<td>Dighirpar, Dinajpur (1995)</td>
<td>327</td>
<td>Yet to be known</td>
<td>200 (Partly evaluated)</td>
</tr>
</tbody>
</table>

*Source: Petrobangla, Govt. of Bangladesh*

### 1.3 Discovery of Barapukuria coal mine

The discovery of Barapukuria coal deposit in 1985 at shallow depth opened a new horizon in the energy sector. Geological Survey of Bangladesh (GSB) discovered presence of extensive coal reserve at relatively shallow depth in April 1985 in Barapukuria under Parbatipur-Upazilla of Dinajpur. GSB undertook further investigation in 1986 and 1987, involving more detailed gravimetric, magnetic and geophysical surveys to confirm the presence of approximately 303 million tones of high quality coal in six horizons over an area of 6.68 square kilometers. Subsequently, Bangladesh oil, Gas and Mineral Corporation (Petrobangla) with the assistance of Overseas Development Administration (ODA), UK concluded a detailed Techno- economic feasibility study by engaging M/S War dell Armstrong, UK in May 1991.
Based on the feasibility study report on Barapukuria coal mine in May, 1991 Petrobangla prepared PP of the Barapukuria Coal Mine Development Project in 1992. The main objective of the project is to set up a modern underground coal mine to produce 1 million tons of coal per year. Its output (83%) was designed for a 300 MW mine mouth coal based power station and the remaining 17% to be used for brick burning, industrial and domestic purposes. PDB has changed capacity of the power plant to 250 MW (125 x 2 units).

The quality of Barapukuria coal is better compared to imported coals. This gives Barapukuria coal a substantial quality and competitive advantage over imported coals. Barapukuria coal is also low in ash and extremely low in sulfur content which meets international environmental standards. The Barapukuria Coal Mining Company Limited (BCML) was established on 8th December 1998 is implementing the Barapukuria coal mine project. Out of the five coal fields discovered in Bangladesh, production is ongoing at Baropukuria Coal Mines only. A total of 1.73 million metric tons of coal has been extracted from the mine up to December 2008.

1.4 Salient Features of Barapukuria Coal Mine

- Extent of deposit: 6.68 Sq.Km.
- Depth of coal: 118-509 meter.
- Nos. of coal layer: 6.
Average thickness of coal seam: 36 m (6th seam).

Reserve of coal: 390 million tons

Mineable reserve: 64 million tons (1st phase)

Composition of coal: Ash 12.4%, Volatile matter 29.2%, Fixed carbon 48.4%, Sulfur 0.53%, Moisture 10%.

Rank of coal: Bituminous (high volatile).

Yearly production: 1 million tons.

Use of coal: 65% of the production is used in 250 MW coal fired power station and remaining 35% is used in brick fields and other domestic purposes. In future, the capacity of the power plant will be increased to 375 MW to ensure 100% utilization of coal to be produce from Barapukuria Coal

1.5 Project Implementation

M/s China National Machinery Import and Export Corporation (CMC) as lead partner of Consortium proposed supplier’s credit for the implementation of Barapukuria Coal Mine Project. The Project Concept Paper (PCP) was approved by ECNEC on 11th March 1992 and Project Proforma was approve by DPEC on 21st April 1993. CMC commenced physical works on 1st June 1996 for the implementation of Barapukuria Coal Mine Project. As per contract the scheduled completion date was June 2001. On completion of installation works of two shafts, when development works of Pit Bottom were in progress underground mine inundated due to on rush of water. Consequently underground development works on mine was suspended for about 30 (thirty) months.
This was necessitated to carry out additional geological & hydro-geological investigation in order to acquire additional date based on which CMC had to modify earlier approved mine design/layout. The underground mine development works restarted from October 2000. As per the revised schedule the completion period was fixed at 20th October 2004.

1.6 Management and Production Contract

After completion of construction of Barapukuria coal mine on 31st may 2005, a “Production, Management and Maintenance” (M&P) contract was signed with China National Machinery Import and Export Corporation (CMC) led consortium with Xuzhou Coal Mining Group Company Limited (XMC) on 4th June, 2005 for a period of 71 months to produce 4.75 million metric ton of coal from the 1st slice of underground mine at a total cost of USD 82.30 million.

2. IMPORTANCE

The mining industry is a complex industry involved with a series of workers working in very dangerous working conditions. Application of existing national labour standards are very much important to ensure decent work in coal mine, occupational disease such as pneumoconiosis is one of major risks for workers in coal mine due to unhealthy working conditions. There is no formal study undertaken to understand existing policy and legal frame work of the coal mine industry. Socio economic status of workers in coal mines at
Barapukuria, nature of employment, industrial relations, existing labour practices, occupational safety and health practices etc. are also yet to be understood.

This study was an attempt to understand those scenarios at coal mining sectors and extend a scope to make some practical recommendations to improve labour standards and health and safety situation in the coal mining sectors.

Hence a research program is undertaken entitled “Status of the Coal Mine Workers: Descent Work Challenges in Barapukuria” will explore the reality at workplaces.

3. OBJECTIVES

Specific objective of this study will be as follows:

1. To understand socio economic characteristics of the coal mine workers at Barapukuria.

2. To understand nature/categories of jobs performed by workers, work method inside the mine, wage, working conditions, welfare and other facilities available for workers.

3. To explore existing occupational safety and health practices, occupational hazards and risks, diseases among the workers and measures taken by authority.

4. To identify existing strength of the workers union, practices of collective bargaining with management (strength and weakness within this process)
5. To identify core problems, demands of the workers and other stakeholders on improvement of working conditions, safety and health and welfare of the workers.

6. To develop some practical recommendations to way forward for improvement of labour standards and decent work at coal mine in Barapukuria.

4. REVIEW OF SECONDARY MATERIALS

Available secondary literature was reviewed and statistical information was gathered from Patorbangla on out-look of the mining industry of Bangladesh (with special attention to coal mine industry). An analysis was also undertaken to understand existing policy and legal frame work for this industry and its present application status.

5. METHODOLOGY

5.1 Population and Sampling of the study:

The workers of Barapukuria coal mine was the population of this study. Around 50 workers has been interviewed with a set questionnaire.
5.2 Instruments for data collection:

Data were collected through pre-tested closed and open ended interview schedule by face to face interview procedure. Focus Group Discussion (FGD) method was also used to collect information.

5.3 Data processing and statistical analysis

Collected data were coded by following statistical technique. SPSS computer program was used for analysis of data. Various descriptive statistical measures such as range, frequency, number, percentage and mean were calculated for categorization and describing the variables.

6. FINDINGS OF THE STUDY

6.1 Socio-Economic characteristics of the coal mine workers

Education level and age group

Education level

- SSC: 40%
- HSC: 18%

Age Group

- < 30: 24%
- 20-30: 56%
- > 20: 20%
Education level of the most of the workers are upto SSC although there are some workers who passes higher secondary level. On the other hand, most of the workers age ranged between 20-30. Only few are below 20 or above 30.

6.2 Nature/Category of jobs performed by workers

Over all Management of BCMCL:

1. Higher Management: MD, GM,

2. Staff / Employee (Other supporting staffs)

3. Workers: Scope for employment of labor is 2610. At present 1086 are working out of which 214 are third party (Shapnopuri) worker under supervision of Petrobangla who are working in the surface only. Rest 872 is underground workers who are appointed by Chinese XMC company. A total of 160 Chinese workers are also working with this underground team as a leader. Around 50 labors are working in a group where two Bangladeshi Foremen supporting the Chinese team leader. Although each shift is a duration of 6 hours for underground workers, some cases they need to work about 8 hours. These underground workers perform three kinds of jobs namely:

   a) Development - workers who making passage (roads), supporting the roof by steel pillar and supply materials.

   b) Production - workers who are engaged to cut and collection of coal using hydraulic powered heavy equipment.

   c) Transportation - driving mine car and skip (curt full with coal) to the elevator to transport the collected coal to the surface.
6.3 Occupational Safety, health practices, hazards and medical facilities

1. First aid facility – Improper first aid facility due to language barrier as only Chinese doctor is working underground. This creates a great problem to the workers. They could not explain their problem to the physician and as a result wrong treatments are very often. Another complain from the workers is the carelessness from the Chinese doctor to Bangladeshi labors. For example, if someone has a cutting injury, the doctor uses first aid treatment/medicine without washing the injured place (while working in the coal body became dirty with coal dust). Without being a doctor everyone knows that the injured place should be washed is it is dirty before any treatment.

2. Discrimination of treatment facilities – Chinese doctors discriminate during treatment for Bangladeshi and Chinese workers. They emphasize Chinese workers. This makes the workers anger.

3. Regular health checkup – No regular checkup for Bangladeshi workers (we do not about the Chinese workers although the Chinese workers work only in safe places).

4. Safety related training – Only few workers at the initial stage received safety related training. Labors joining afterwards do not have any training on safety. Moreover, there is rehearsal to be done in emergency or safety problems.

5. Coal roof collapse – Within the mine roof is supported by steel pillars with 70 cm spacing. Sometimes roof coal break down and fall on the labors. Even sometimes these pillars slip make big injury to the labors. (We meet one labor having injury with coal roof collapse. After treatment he quit his coal mine job and presently working as riksha-van puller).

6. Common injury or diseases
a. By the sharp edge of the coal, a good percentage of the workers become injured every day.

b. Asthma
c. Cough
d. Eczema
e. cytocynis

f. Itching, soar and bad odor problem of legs

6.4 Welfare

Company established a school in their premises. Children’s of company workers can study in this school and get 50% exemption of the fees. Moreover, company is paying two bonuses every year. Although underground workers are not receiving any profit bonus by their appointing authority (XMC). However, they receiving a small part of profit bonus which as curtailed from the Petrobangla employee and distributed to the underground workers (XMC).

There were no CBA till 2007. CBA start working from 2007 and get license from the concerned authority on 25th November 2009. There are 18 members in the CBA. They have excess to the authority whenever needed. But their success to achieve demand is less than 50%. Beside these there is a political workers organization named “Barapukuria Coal Mine Chromic (labors) League”. They are also working for the wellbeing of the workers.

7. CORE PROBLEMS / DEMANDS IDENTIFIED
7.1 Lack / Absence of Chief Mine Inspector

According to existing Mince Act 1923, it is obligatory to appoint Chief Mine Inspector to supervise the working condition in the mine, to ensure the safety conditions for the workers and to ensure the obligatory welfare measures for the workers. By establishing the office of Chief Mine Inspector, the above mentioned problems can be solved or removed. In the BCMCL, till now, Chief Mine Inspector and office has not been appointed. This makes vulnerable to the workers. As the operating company is from abroad and workers are local (Bangladeshi) it is necessary to supervise and ensure the proper working conditions for our workers. Till now, there is no legal frame-work to ensure and supervise the appropriate working conditions.

7.2 Structural wage package

The labors demand salary like other mine company labors are getting. They presented an example of Madhopara Hard Rock Mine which is very near to this mine. Labors of that mine are under ‘third party’ named Shapnapuri. This kind of third party company is appointed by the Patrobangla. Third party company is appointing the labors with a wage package following the labor rules of Bangladesh. With this system, the labors can enjoy weekends, holidays, mining allowance, profit bonus and other facilities. Although part of the labors of BCMCL are under third party (surface labors) but unfortunately the labors working harder and in risky position are under the Chinese XMC company. This Chinese company is not offering any kind of holidays, mining allowance, profit bonus or any other facility. Even their company rule is not publicly declared.
7.3 Appointment of Bangladeshi doctor beside Chinese doctor for first aid

Getting injury in the coal mine is very often. There is a doctor for first aid but unfortunately only Chinese doctor are appointed for this purposes. About 50 labors work in a group where Chinese person is only one. He is the head of the team and virtually he need not to make any physical labor over there. His chance to get injury is almost zero. But doctor on duty is only a Chinese. Actual workers who have a chance to get injured are Bangladeshi labors. Beside this core issue, till now there is no Bangladeshi doctor. After injury, labors can not express his impression or feeling to the doctors. Moreover, the labors claim that the Chinese doctor neglects Bangladeshi labors and their treatments generally do not possess good care.

7.4 Proper medical and financial support to injured workers

Whenever workers become injured seriously, doctors (Chinese) generally attend them but the problem is the language barrier. Workers claim that many cases doctors misdiagnoses the injury status and delay to transfer to hospital. Ignorance to Bangladeshi workers is a general complain of Bangladeshi workers whereas they (doctors) are very serious to Chinese workers. This makes annoyance to the Bangladeshi workers. This kind of discrimination is very often. For example, in similar grade of injury Chinese workers transferred to hospital by ambulance but for Bangladeshi workers they do a first aid treatment and ask the worker to continue his job.

7.5 Supply of new working dress and equipment periodically
Many of the workers claim that their dresses are not in good condition, boats are ribbed and helmets are broken. Labors working with ribbed gum-boats often suffer skin infection due to prolonged dipping in dirty water between the fingers and it creates very bad smell. Sometimes workers use grease to prevent these kind of infection which is also a health hazard (grease collapse skin respiration). Another demand from the workers side is supply of two sets of dress instead of one set. Supplying two sets of dress may help improving working condition.

7.6 Make function of existing washing and drying system and dress cabin

There is a washing and drying machine to clean the working dress of the labors and initially it was functioning properly. All on a sudden, some problem arises and stopped using this machine. According to workers statement, there was an unsolved matter about bearing the cost to running this machine. The main cost to run this machine is detergent. The XMC do not want to continue providing this cost. On the other hand, BCMCL did not show any interest to run this machine even did not pressurize XMC to continue this matter. Due to this tag of war workers had no choice and pressurized to continue work using the dirty working dress. Further more, after working in the mine, dress become wet due to sweat and mine water. Workers even can not dry this wet dress and use same on next day. This practice makes skin diseases all over the body and other asthmatic diseases.

7.7 Insurance (life, health etc.)
Although working in the mine is very risky for health and even for life, till now there is no insurance for the workers life or health. Those who are becoming disabling due to coal mine accident are not rehabilitated. For example, on 11th May 2010, there was a massive accident in the coal mine where 18 workers were injured seriously. Out of them one worker died in the hospital (Pranajit Chandra Roy), two workers became permanently disabled and rest 15 workers return to work. Disabled workers did not get any support from the authority (according to workers claim). A few of the workers informed that there are a group-insurance for the workers.

7.8 Mining allowance

Whenever workers are doing their job below 400ft from the ground, they are eligible for mining allowance. Workers of another mine (Madhapara Hard Rock Mine, near the present mine) are getting mining allowance. At Madhapara Hard Rock Mine, 100% of underground workers enjoying mining allowance. Moreover, surface workers also receiving 30% mining allowance at Madhapara. Beside this, BCMCL workers do not get any mining allowance although they are working at about 1000ft below the ground. Therefore, BCMCL workers also deserve this allowance.

7.9 Labor rationing

Workers are earning 200 taka per working day. It is very difficult to maintain family with this little money. Workers demand ration from the BCMCL or from the government end on an urgent basis. This will help to increase the life standard of the coal mine workers.
7.10 **Refresh allowance**

Workers can’t take food for about 9 hours while working underground although they can drink over there. After returning they need to take some food after getting fresh. Therefore, they demand a refresh allowance before moving to underground and after returning from work.

7.11 **Profit bonus (5% of the profit)**

The BCMCL set a target to harvest about 2,200 ton of coal per day but collecting about 5,000 ton daily. This achievement provides as much as Tk. 13 crore profit in 2009-2010 year where as Madhapara posses a loss of Tk. 70 lakhs. Workers claim profit bonus from the authority as this BCMCL is a profitable company. Although workers enjoyed profit bonus for last year but it was not a profit bonus. Officers and stuffs of the company (BCMCL) enjoy a big profit bonus. They curtail part of their profit bonus and offer to the underground workers. Last year the workers received Tk. 4,500 as profit bonus by this way. This would not be the moral way and strike the workers state of mind.

7.12 **Leave/holiday**

Mining is going on round the clock and workers are bound to do their job as per schedule. They do not have any holiday or they can not enjoy weekend. Even on religious holidays (e.g. Eid festival or Puja festival) workers can not enjoy and are bound to work.
8. PRACTICAL RECOMMENDATIONS

1. According to existing Mince Act 1923, it is obligatory to appoint Chief Mine Inspector to supervise the working condition in the mine, to ensure the safety conditions for the workers and to ensure the obligatory welfare measures for the workers. In the BCMCL, till now, Chief Mine Inspector has not been appointed. This makes vulnerable to the workers. As the operating company is from abroad and workers are local (Bangladeshi) it is necessary to supervise and ensure the proper working conditions for our workers. Till now, there is no person to ensure and supervise the appropriate working conditions. Immediate measure should be taken to appoint Chief Mine Inspector from Government end.

2. Immediate measure should be taken to make a committee ensure safety working condition with the authority and workers.

3. Health surveillance should be conducted for the workers of the coal mine to identify the common diseases of the workers and thus ensure the health condition.

4. Appointment of Bangladeshi doctor for first aid. This will solve the communication barrier to express the actual problem of the workers during working under the ground.
5. The coal mine workers are appointed by Chinese contractor XMC and there are proper communication problem due to language barrier. A government or third party initiative is needed to overcome this above problem.

6. Bangladesh labor rule are not applied to the workers of XMC. Although there are Chinese company rule to be applicable but labors are not informed about it. Therefore, initiative should be taken to inform the rules under which they are working.

7. Immediate steps should be taken to introduce insurance (health, life, group insurance) for the workers.

8. Initiative should be taken to improve the existing working condition by supplying new dress and equipment (helmet, musk, gloves, boat etc.) and introduce the washing and drying facilities.

9. Relationship between authority and CBA should be more strengthen to negotiate other problems/demands like
   a) Profit bonus
   b) Mining allowance
   c) Labor rationing
   d) Leave / holidays
   e) Refreshment allowance

References:
(1) Review of secondary data has been taken from the websites of Patrobangla.
(2) http://www.petrobangla.org.bd/
(3) http://www.emrd.gov.bd/bcmcl.html
(4) http://www.bcmcl.org.bd/

OSHE’S STUDY REPORT ON STATUS OF THE COAL MINE WORKERS OF BANGLAESH
Annex-1

Picture: Deep cutting injury (left side). Finger was cut (right side)
Picture: Fresh cut injury of hand (left side) and finger of leg (right side). Pictures were taken just after returning from underground work.