

**A REPORT ON**  
**BLACK STONE QUARRIES OF**  
**TWO EAST INDIAN STATES:**  
**JHARKHAND**  
**AND**  
**WEST BENGAL,**  
**INDIA**  
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## Introduction

Black Stone is in use since early age Idols of Gods and Goddess carved in black stone since in early historic time in India. There are many such Idols can be seen in present time which were carved in early mediaeval period, mainly in Pal period.

During the present time, the use of black stones has become more important. Mortar is used in large quantities for buildings and stone chips are used for metal roads. In eastern India these stone chips are supplied mainly from some districts of West Bengal like Purulia, Bankura and Birbhum and some northern districts of Jharkhand namely Dumka, Pakur and Sahebganj.

In these districts one geographical feature is common, i.e. the land is arid, agriculture is scanty and these areas once were covered by dense jungle. Due to unplanned deforestation top soil has been destroyed. Underground water level is down below 120 to 350 ft. digging a well is too much costly and deep tube well is almost out of question as people live here are very much poor. Rainfall is minimum in these areas.

Besides agricultural work, which is as said earlier, scanty, people have to depend on these quarries for their earning. The quarry owners are usually not rich businessmen, especially those in Bankura and Purulia of West Bengal. There are at least some owners who were previously labours of such quarries. Almost 90% people of these areas belong to scheduled tribe community, namely Santals, Kurmi, Ho, Oraon, Munda and Scheduled caste like Bagdi. Initially these people were dependent on forests. Basically they were forest people since early human history. Destruction of forest forced them to become labourers of these quarries and in agricultural field of other fertile districts like Bardhaman, Nadia, Hooghly, Howrah, Birbhum, Murshidabad etc. It is commonly believed that women are not fit for mining works. But in these quarries women labours participate in quarry works with their male counter parts. In a quarry ratio of men:women labour is 60 : 40.

The quarries under our study are usually small in their size of operation. Their production is from 20 to 200 tons a day and the number of labourers required for these quarries vary from 20 to 28. Seasonality of operations is one salient feature of these quarries of Bankura and Purulia - these quarries run for 6 to 7 months a year as in rainy season and in winter no labour is available for these quarries. The workers usually go away to do agricultural work in neighboring districts.

The number of quarries run in Dumka district is 191 (out of those quarries 90 are functional) and number of adjoining crushers is 52. Revenue earned by Government from these quarries is 24.359 million rupees in a year. In Pakur number of quarries 528 (out of which 350 are working) and crushers depends on

these quarries numbering 425. Revenue earned from these quarries and crushers is 82.591 million rupees a year. In Sahebganj districts number of quarries functioning is around 250.

In districts like Bankura and Purulia of West Bengal these quarries are much smaller in size and in production. Only quarries of Birbhum district tally with Dumka because the geological belt of Birbhum, Dumka and Pakur is same.

## **1. MINES IN THE AREA**

This study is basically made on black stone quarries of two eastern states, Jharkhand and West Bengal. Number of these quarries is given in table no.1.

**TABLE 1**

<b>Country</b>	<b>State</b>	<b>District</b>	<b>No. of Mines</b>
India	West Bengal	Birbhum	121
		Bankura	35
		Purulia	41
	Jharkhand	Dumka	191
		Pakur	350
		Sahebganj	250

### **1.1 The definition of ASM in this context**

The mines which possess not more than 35 people as labourers and officials and produce not more than 300 ton a day and area of the mine not more than 2 acres is defined as small mines by the Directorate of Mines Safety, of Govt. of India.

### **1.2 ASM Sector Units studied**

Small quarries of Jhalda block of district Purulia, Saltora block of district Bankura and Makrapahari area of district Birbhum of the state West Bengal and Sarasdanga and Sikaripara of Dumka district of Jharkhand are studied for this purpose.

### **1.3 Structure of the Industry Concerned**

In these quarries no. of persons engaged is like the following

- a) Drill man – 1
- b) Mate – 1
- c) Manager – 1
- d) Bluster – 1

- e) Loading labour (both male and female) – 10
- f) Breaking stone (from bolder of 30 to 45 in dia length to 'cheli' of 12 to 18 cm. In length) – 10
- g) Cleaning labour (mainly female) – 8

#### **1.4 ASM Standing/Advisory/Controlling Body**

Only in Saltora block of district Bankura has a common body of operation which looks after Government transactions and other legal matters called 'Miners and Crushers Association'. In other districts there is miners association. But those associations are not that effective like the association of Bankura.

#### **1.5 Local Context: Physical Extent of the Area, Administrative Units**

In Jharkhand the land for digging mines is leased by the Block Development Officer (hereinafter BDO) but license for mining is given by District Mining Officer (hereinafter DMO) and the safety measures should taken by a mine is controlled by Directorate of Mines Safety (hereinafter DGMS) of the district. Annual revenue is given to DMO.

In West Bengal land is leased by the BDO and revenue is also collected by his office. Only mining permit is given by DMO.

#### **1.6 Previous Estimates by Others**

No such estimates found for the area studied.

#### **1.7 Your Estimates**

In Dumka district almost 6000 people are engaged in 191 black stone quarries. Revenue earned by the Govt. in the year 2001 – 2002 is Rupees 17.793 million., In 2002 – 2003 it was Rupees 21.352 million and 2003 – 2004 it was Rupees 24.359 million.

In district Pakur 11000 people engaged in 350 quarries. Revenue earned by the Govt. in the year 2002 – 2003 it was Rupees 80.115 million and 2003 – 2004 it was Rupees 82.591 million.

8000 people are engaged in 250 quarries of Sahebganj district. Revenue earned by the Govt. 2003 – 2004 is Rupees 21.759 million.

## 2. ORIGINS/TRADITIONS

		Percentage change over the previous year				
		1999- 2000	2000 - 2001	2001 - 2002 (P)	2002 - 2003 (Q)	2003 - 2004 (A)
<b>ITEMS</b>						
<b>I</b>	<b>Agricultural and Allied</b>	<b>0.3</b>	<b>-0.1</b>	<b>6.5</b>	<b>-5.2</b>	<b>9.1</b>
<b>II</b>	<b>Industry</b>	<b>4.8</b>	<b>6.5</b>	<b>3.4</b>	<b>6.4</b>	<b>6.5</b>
	1. Mines and Quarrying	3.3	2.4	2.2	8.8	4.0
	2. Manufacturing	4.0	7.4	3.6	6.2	7.1
	3. Electricity Gas and Water Supply	5.2	4.3	3.6	3.8	5.4
	4. Construction	8.0	6.7	3.1	7.3	6.0
<b>III</b>	<b>Services</b>	<b>10.1</b>	<b>5.5</b>	<b>6.8</b>	<b>7.1</b>	<b>8.4</b>
	5. Trade, Hotels, Transport & Communication	8.5	6.8	8.7	7.0	10.9
	6. Financial Services	10.6	3.5	4.5	8.8	6.4
	7. Community, Social & Personal Services	12.2	5.2	5.6	5.8	5.9
<b>IV</b>	<b>Total GDP at factor cost</b>	<b>6.1</b>	<b>4.4</b>	<b>5.8</b>	<b>4.0</b>	<b>8.1</b>
A : Advance Estimates; Q : Quick Estimates P : Provisional Estimates						
Source : Central Statistical Organisation, Govt. of India						

### 2.1 Local Economic Traditions

Districts like Bankura and Birbhum of West Bengal are basically dependant on Agriculture. Industry and Mining is not prevalent in these districts. The following table would clear up the picture.

**TABLE 3**

Number of small scale industrial units Registered with the Directorate of Cottage and small scale industries with corresponding employment in the District Bankura & Birbhum, West Bengal								
	2001		2001 - 2002		2002 - 2003 (R)		2003 - 2004 (P)	
	Unit	Employment	Unit	Employment	Unit	Employment	Unit	Employment
<b>Bankura</b>	358	1954	308	487	588	2482	373	2444
<b>Purulia</b>	212	1296	239	1094	367	2372	278	2035
P : Provisional; R : Revised								
Source : Directorate of Cottage and small scale industries, Govt. of West Bengal								

**TABLE 4.1**

Some Classification of Land utilization statistics in the District of Bankura (in 1000 hectares)
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Year	Total area according to DLR	Forest according to State Forest Dept.	Current Fallow	Other fallow land other than current fallow	Cropped area
1999 - 2000	688.10	148.35	32.29	4.50	349.59
2000 - 2001	688.10	148.35	62.14	2.35	344.06
2001 - 2002	688.10	148.35	34.01	3.50	383.33
2002 - 2003	688.10	147.29	45.35	1.39	357.14
Source : Directorate of agricultural, Govt. of West Bengal					

**TABLE 4.2**

Some Classification of Land utilisation statistics in the District of Birbhum (in 1000 hectares)					
Year	Total area according to DLR	Forest according to State Forest Dept.	Current Fallow	Other fallow land other than current fallow	Cropped area
1999 - 2000	452.07	15.05	2.02	2.91	330.62
2000 - 2001	451.12	16.03	6.54	2.57	337.53
2001 - 2002	451.12	16.03	19.21	2.47	320.32
2002 - 2003	451.12	15.85	14.55	1.56	326.85
Source : Directorate of agricultural, Govt. of West Bengal					

In Jharkhand districts like Pakur, Sahebganj and Dumka rural electrification is most minimum. The quarry areas are completely devoid of electricity. In quarries and in crushers of these area power is supplied by diesel generators.

## 2.2 Present Power Structures

**TABLE – 5**

Mouzas Electrified in the District Birbhum & Bankura (Number)					
	1999	2000	2001	2002	2003
Birbhum	2219	2228	2230	2225	2225
Bankura	1699	1710	1730	1768	1816
Source : Bureau of Allied Economic and Statistics, Govt. of West Bengal.					

At least in last two decades electrification in the rural areas of the state West Bengal has been increased remarkably.

### **3 Location and Distribution**

#### ***West Bengal :***

In Bankura district the black stone quarries are distributed in Bankura sadar block, Saltora, Sarenga and Mejia blocks.

In Birbhum these are distributed in blocks Nalhati and Rampurhat

#### ***Jharkhand :***

In Dumka district the black stone quarries are distributed mainly in Sikaripara block.

### **4 Growth**

#### **4.1 Introduction: History**

History of black stone mining is as old as civilization in Dumka and Pakur area of present day's Jharkhand.

In West Bengal Saltora of Bankura district history of black stone mining is old like Pakur but the quality of black stone is inferior and contains silica.

Actually the Rampurhat area of Birbhum, Sikaripara area of Dumka and Pakur has the same black stone belt. The quality of stone is almost same everywhere except the Barpahari deposit of Birbhum, which is the best in quality.

#### **4.2 Reserves of the Resource**

All the areas mentioned above of the state West Bengal and Jharkhand black stone deposit is enormous. Quarrying in these areas is facing difficulty for many reasons. Lack of uniformity in implication of Govt. rules is different in different regions. As in the case of Bankura districts small quarry owners whose size of quarry is not more than two acres are constrained of using explosives. Transportation is difficult in almost everywhere due to lack of roadways. Except in Birbhum power supply is absent everywhere.

#### **4.3 Other Resources Outside Mining Areas**

In Dumka of Jharkhand there are fire clay deposits and a small amount of coal deposit are found apart from black stone.

In Bankura other than black stone some red and white marble is also found. In rest other districts of the two states mentioned above are mainly dependent on black stone mining

#### ***4.4 Potential Supply Constraints on ASM/Informal Mining***

In Jharkhand there is little agricultural practice due to shortage of cultivable land. So availability of labour is not a problem. But in West Bengal agriculture is the main practice. So in rainy and in harvesting seasons no labour is available for mining. As mentioned earlier except in Birbhum power is a problem. Apart from these supply of drinking water is insufficient. In Jharkhand drinking water is a constant problem especially in summer months. So water borne disease is common in these area. Telecommunication and maintenance of roadways is totally lacking everywhere.

In Jharkhand local politics like influence of Naxalite force inhibiting the mining. In some cases interference of local authority in appointing minor labour is also hindering the as well as it is causing starvation to the poor village people.

In the quarries of West Bengal labour trade unions inhibiting the introduction of mechanization which is causing lesser production.

### **GROWTH FACTORS :**

#### **5.1 Governance Factors**

##### ***5.1.1 Legal Environment***

Except in Birbhum district existence of organized trade union movement is totally absent in other districts of Jharkhand and West Bengal. The role of trade unions in Birbhum district is not constructive for the labours as well as for the industry. Till now they are resisting introduction of mechanization which could have increase rate of production as well as increase in labour requirement.

##### ***5.1.2 Administrative Constraints***

Permission for mining is not controlled by a single authority. This is controlled by:

- 1) District Mining Officer (hereinafter DMO),
- 2) Directorate of Mines Safety (hereinafter DGMS),
- 3) District Magistrate or District Collector, locally by the Block level Officer on behalf of him,
- 4) District Land and Land Reforms Officer,
- 5) State Pollution Control Board,
- 6) District Forest Officer,

This causes much problem to get a new license to establish a new quarry.

In Bankura another problem is faced by the small quarry owners whose leased area is not more than 2.5 acres. They don't get explosive license. And it is next to impossible to dig through basalt and granite deposits without use of dynamite.

In Dumka and Pakur districts of Jharkhand, administrative pressure towards prevention of employing child labour causing closure to many mines. This is a problem to the labour also. There are many families where father is dead and mother can not go out for external works. These families are forced to send their minors for physical labour so that they can earn some bread for his or her family.

## **5.2 Socio-economic Factors**

### ***5.2.1 Socio-economic Environment***

In both states black stone quarries run in remote places. These places were covered by dense jungle even some decades earlier. People live in these area are mostly tribal Santal, Munda, Ho and of such other community. Basically these people were dependent on the surrounding forests. Deforestation caused total socio – economic changed to these communities. They are now the contract labours for agriculture to some distant places or they are the labours of such quarries and stone crushers.

### ***5.2.2 Shortage of Other Rural Income Opportunities***

Still now there is limited forest in these areas and these people depend partially on the woods for supply of fuel for their own use as well as for the local market. In West Bengal the quarry labours are not completely dependent on these quarries and stone crushers. Some of them have little quantity of land to cultivate and the rest other can do some agricultural work.

In northern Jharkhand districts like Sahebganj, Pakur and Dumka are totally barren. Only 10.2% of land is cultivable yet there is no irrigation. So if there is good rain fall in a year only one kind of crop can be grown. So these people are totally dependent on these quarries and stone crushers.

### ***5.2.3 Desire for Higher Education***

Literacy rate in these districts of Jharkhand and West Bengal was very poor. Recent steps taken by the Central Govt. which is compulsorily followed by the State Govt. as well as the local self Govt. increased literacy rate in West Bengal the literacy rate is much higher than the rate of Jharkhand. In Bankura and Purulia districts of West Bengal almost all the boys and girls under the age of 15 have attended at least the primary education. 60% of them continued up to 7 or 8 standard. 50% completed secondary education. Higher education up to graduate level is taken only by 8% in Bankura and 13% in Birbhum.

In northern Jharkhand districts children of these tribal people are attending primary education but less than 5% is continuing up to secondary level. Though in these areas Christian Missionary works are running for a long time and almost in every village there is a primary school established besides establishing a church. Intermediate college is very small in number and Degree College is far less.

### **5.3 Mining Sector Factors**

#### ***5.3.1 Small Resource Deposits Ignored by Big Mining***

Black stone mining is completely ignored by big companies. Only in Saltora area of Bankura there is a single quarry started two years back by a big company to supply stones to construct the new four lanes National Highway. This quarry is now closed as the requirement is fulfilled. Black stone is required for civil works only. So there is no constant demand by the big companies. Single individuals and small contractors are the only customers of these quarries. So big mining in this field is not possible.

#### ***5.3.2 Resource Losses due to Mining Operations***

Mining areas for black stone in both these states are totally barren so no cultivable land is misused in this way. Only thing possible in this area is forestation. This has been started in some parts of Bankura district by the forest department. But rest of the places is still ignored.

## **6. SOCIO-ECONOMIC CHARACTERISTICS**

### **6.1 Who are the Miners?**

#### ***6.1.1 Introduction to the Miners***

In Bankura miners are mostly from middle class society. There are some miners here who previously were labourers to a mine. No where in other districts black stone mining is operated by big businessmen except two business houses, one at Pakur and another is at Barpahari.

#### ***6.1.2 Previous Employment of Males***

All the miners in five districts of these two states are males. No female is still interested to get involved in a seasonal business like black stone mining. Secondly black stone mining is dependent completely on the stone crushers. If the miner has no provision to establish a crusher adjacent to his quarry, he is quite helpless in this business as is happening in the quarries of Bankura.

#### ***6.1.3 Classification of Miners by Age***

Age of the miners ranges from 25 – 45 years. Only two or three persons found who are continuing mining in the age of 50 and above. Rest others left the business or shifted it to become a crusher owner.

## **6.2 Categories of Miners**

### ***6.2.1 Actively Involved in Alternative Occupations (farming, herding...)***

Almost all the miners are involved in alternative professions. Most of them are involved in farming. Rest others are either has some small business. Very little miners has no secondary source of income.

### ***6.2.2 Formerly Involved in Alternative Occupations***

Most of the miners started their profession with this mining but there are some who previously were engaged in some other kind of business or service to some private sectors.

## **6.3 Socio-economic Influences**

In all these five districts these miners are paying maximum of the Govt. royalty. Except agricultural sector of West Bengal the stone quarries are controlling the next highest economic growth of the region. They are the most effective employers in these localities and yet they are the least observed community by Govt. sectors. Telecommunication is out of question in every where in the districts of northern Jharkhand. Power supply is also absent. Only diesel generators are the source of power supply but supply of diesel is not good and not could be available locally. Marketing is also a problem as the condition of the roads connecting these quarries is real bad.

## **7. GENDER CONCERNS**

### **7.1 Women's Work Participation: History of Region/Country**

Female participation in the workforce varies across rural – urban areas. According to the 58<sup>th</sup> round (July to December 2004) survey of NSSO, the female workforce participation rate in rural areas declined to 281 per thousand compared to 299 in the 55<sup>th</sup> round (July 1999 – 2000). In urban areas, it increased marginally from 139 to 140. In rural areas, 85% of women works are engaged primarily in agricultural activity and related sectors such as animal husbandry. In urban areas, a significant proportion of women workers are employed in the unorganized sectors such as household industries, petty trade and services and building and construction activities.

According to National Institute of Public Finance and Policy (NIPFP) study on gender budgeting, the average female wage is almost 80% of male average in urban areas, while it is less than 60% of the corresponding male rate in rural areas.

## **7.2 Gender Roles**

### ***7.2.1 Overview: Traditional Gender Roles in the Region/Country***

All the area under this survey the labours are mostly from Santal community where women share equal role in home and in society with their male counterparts. In these quarries and crushers involvement of female is almost equal. It can be seen in a quarry the ratio of male is to female is 60: 40 and in a crusher it is 40: 60. Only the breaking of boulder is done by males and of course is blasting.

### ***7.2.2 Recent Changes in Gender Roles***

Two major changes have been marked in the family/ social custom. One is, some women workers shifted their household works like cooking, attending children and older members of the family to her husband and where husband also work outside, to her son. The second change is more interesting. Santals have a different society than the rest of the population in West Bengal or Jharkhand. Boys and girls mix freely before their marriage. But they hate a 'Diku' (means a foreigner or outsider). Marriage is strictly within their society. Presently it is seen in Bankura that boys of that community desire to maintain four to five girl friends to maintain their status amongst their friends. On the other hand, girls of that society is not at all interest to mix up with the boys of their own community, rather they are interest to get intimate with a civilized boy of other community.

### ***7.2.3 Family-Kin Networks***

These Santal and Bagdi community of the surveyed area are normally live in closely knit families. As these quarries are small ones and they don't have the necessity to keep the labours adjacent to the quarry, no major change in family structure has been noticed. But interesting enough, the least percentage of educated members of the society is not interested to keep in touch with their family or with the society. They are leaving for a consumerism oriented life to a city nearby. But hat percentage of educated people is very low.

### ***7.2.4 Women's Needs***

Still now these communities are not dependent on modern day scientific treatment for child birth and infantile mortality rate is still very low among them. Yet many water borne diseases are prevalent in these areas. Supply of drinking water is absent. They are totally dependent somewhere on a single well attributed to three or four villages or, they are dependent on some pool or sterns. In summer days

these streams and pools dried up and they are forced to drink any kind of water they could collect.

Health service is completely lacking. Sometimes there is a block level hospital or sub-health center in some 15 – 20 kilometers away, but most of the time a doctor could not be found there and never medicine could be available in those hospitals. In summer time many people die mostly of malaria, encephalitis and enteric diseases.

### **7.3 Gender Roles in Mining and Processing**

#### ***7.3.1 Division of Labour in Mining***

Unlike mining in organized sectors, these stone quarries are small and women are not hindered to take part from any job of mining except breaking boulders. Yet in one or two places it has been observed that older women, above the age of 30, breaking stone. There is no hindrance on behalf of the quarry owner or manager or mate, but habitually they don't do it or, their kin forbid it if they are carrying child. Normally in this kind of mining work out 28 labours there may be 10 – 13 female workers.

#### ***7.3.2 Division of Labour in Processing***

In cleaning operations and in crushers women are in greater number. It is seen that women labour take rest less frequently so they can do more work than her male counterpart. So in these jobs out of 30 or 35 labours there are 20 – 25 females.

#### ***7.3.3 Division of Labour in Transportation***

Loading of stones, be it boulder or chip, is completely done by the female, if they are available, for the above said reason.

#### ***7.3.4 Division of Labour at Home***

Normally household works like fetching water, collecting fuel wood and cooking is done by the women. But it is not uncommon that male are doing these jobs when his wife or sister or sister – in – law or mother is out at work. Especially in Santal community division of labour is almost equal between husband and wife. If they are engaged in agricultural work, they work together. Same applies for maintenance of live stock.

### **7.4 Wages**

#### ***7.4.1 Wages in Other Activities***

In agricultural work labour are paid daily wages which varies from Rs.50 to Rs.60 a day from place to place. Both males and females are paid same amount.

Those to collect wood from forest to sale it as fuel in local market can earn maximum of Rs.30 a day

#### ***7.4.2 Wages in ASM/Informal Mining***

In quarries labours are paid according to their amount of work that is in contract basis. Normally breaking boulders in a mine, Rs.21 to Rs.25 is paid per 150 cubic feet of stone. One labour generally earns Rs.75 in a average in a day.

Carrying 150 cubic feet of stone earns Rs.15 to Rs.20. A labour carrying stone generally earns Rs.45 to Rs.80 a day.

#### ***7.4.3 Women's Views on Wages***

There is no difference between male and female so far payment is concerned in these quarries. Normally if it is taken earning per month by a person, Women earned at per or higher that their male counter parts as they don't take frequent leaves.

### **7.5 Working conditions**

#### ***7.5.1 Provision of toilets, creches***

No where in these quarries and crushers arrangement for toilets has been observed. Supply of drinking water is also lacking. As number of labours vary from 20 – 35 in a quarry so no arrangement for crèche is possible. What is causing maximum damage to the children or working parents is they are inflicted by silicosis or other lung diseases caused by stone dust as they play openly.

#### ***7.5.2 Sexual harassment***

There are stray incidents of sexual harassments to the women workers. But most of the incidents can not be termed as rape as these kind incidents happen with understanding of both sides. But there are some cases where the male partner denied to marry the girl when she is conceived.

#### ***7.5.3 Women's Perceptions of Sexual Harassment***

Mostly women workers take such kind of sexual harassments as professional hazards but there are cases when extra marital affairs take place with the consent of both he partners or if it is premarital one from both the sides, this generally terminates in marriage if both the boy and girl are from same community.

## **8. CHILD LABOUR ISSUES**

### **8.1 Introduction**

#### ***8.1.1 Overview***

The areas under survey are populated mainly by the tribal people. In their society boys and girls used to take part in the labourious works when they are of 14 or 15 years of age including hunting, cultivation or even other outside works including serve as labours in these mines. Almost in every mine there are 3 – 5 percent of such kind of labours who are below 18. Most of them dropped from school in urge of earning. In some places, like Dumka at present, Govt. authority trying to interfere in this kind of employment of child labours. But those authorities are not thinking about their need to earn for themselves as well as for their family. There are some cases where these boys and girls either lost their father, who was the earning member of the family or, they have lost both the parents. In such cases these boys and girls are forced to earn something for their existence.

#### ***8.1.2 Opinion of Parents***

Normally, at least at present, parents are interest to send their children for study and don't encourage doing physical works for earning, if both the parents are engaged. Where the father is dead, mother is compelled to send her boy or girl for earning if she has got to look after babies.

### **8.2 Child Labour and Child Rights in the Region/Country**

#### ***8.2.1 Differences in Different Situations***

Normally the country law forbids employing labour who is under 18 years of age. But in practice it is followed by the local authority that no boy or girl should be employed who is under 15 years of age. At least in eastern India this is the practice.

#### ***8.2.2 Impacts of Mining upon Children***

If the area is somewhat developed like Bankura or Birbhun of West Bengal, introduction of cable TV influencing the local people as well as the children towards consumerism. This is not observed in backward areas in Jharkhand like Sahebganj, Dumka or Pakur.

#### ***8.2.3 Children in Mining Settlements***

Normally there is no mining settlement in this field, as it is said earlier that these are very small mines and no organized and trained labour is required in these mines.

## **9. LABOUR PROTECTION, HEALTH AND SAFETY ISSUES**

### **9.1 Labour Protection**

#### **9.1.1 Initiatives**

In both the states safety in a mines is looked after by the DGMS and the department officials observe a mines safety week in every year. Besides that they train the bluster and other mine workers against possible disaster form time to time. In West Bengal explosive license to the quarries under 2.5 acres.

#### **9.1.2 Labour Protection in Mining**

Bluster's shed is seen everywhere but it is seldom used by the workers. Helmet, blasting glass is used by the labours who work directly in the blasting area.

#### **9.1.3 Labour Protection in Processing**

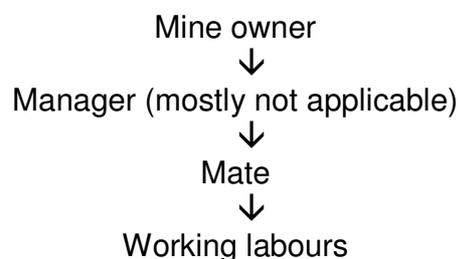
There are some rules imposed by the pollution control board of the state Govt. concerned but there is no implication of these rules.

In a stone crusher it is directed by the pollution law that the area should be covered completely and the stones and stone chips should be watered in every phase of crushing and separation to avoid release of stone dust, which may cause silicosis and other lung diseases to the workers. But in practice no such protection can be seen.

## **9.2 Working Conditions**

### **9.2.1 Opinions of Miners on Working Conditions**

Most of the miners are not rich persons and their mine is also small, that is within 2.5 acres, and don't have the usual labour structure of the big mine. Their structure is as follows :



They don't even have the output quantity from their mine (s) by which they can follow the strictures imposed by different authorities.

In Jharkhand drinking is a problem so it is quite necessary to dig up tube well near the quarry but the water level is very deep in those area and digging up a tube well costs around 1.5 hundred thousand rupees which most of the mine owners can not provide.

In that state health service is poor so some of the quarry owners appointed the own doctor but availability of medicine is a problem because of the distance of a near by town is from 30 60 kilometers and transportation is very poor.

### ***9.2.2 Labour Pressure***

There is no organized pressure from the labours in Bankura. In Birbhum and in the northern districts of Jharkhand there is organized labour unions but they are not interest to look after these essentials.

Everywhere no NGO is working amongst these labours for their education, health and other developments.

### ***9.2.3 Mining Season***

These mines are seasonal depending on the availability of labours. These are run January to June and again from October to November. Labours work here generally go out to do agriculture work in other districts during July – August and November – December.

### ***9.2.4 Working Hours***

There is actually no fixed working hours in these quarries and stone crushers. As the labour work in contact, they used to start work at 7.00 hours in summer months and work up to 5.00 or 5.30 hours, but in winter months they work from 9.00 to 4.00 hours. They usually take a break for lunch at noon (at around 1.00 p.m.) for 1 to 1.5 hours.

## **9.3 Health and Safety**

### ***9.3.1 Opinions of Miners on Health Conditions***

Every where health is major concern both from the miners and from labours point of view. There is no health service available in the remote places where mining is carried out.

## **10. SETTLEMENTS AND HOUSING OF MINERS**

### **10.1 Housing**

### **10.1.1 Established Settlements – Commuters**

In both the states labours come from surrounding area of the mine within a distance of 5 to 7 kilometers. In most cases labours come by bus from their village to working place or some of them come by bicycle or by foot. They are daily commuters and don't try to established a new home near their work place.

### **10.1.2 Established Settlements – Process Workers**

No such settlement is required by the labours or made by the owner as village of the labours is within an hours journey.

### **10.1.3 Specific characters of Housing: Owner**

The tribal people of eastern India live in clay houses covered by straw of paddy or by terracotta plates. All the houses are coloured by different natural colours obtained form soil. The walls are again decorated ornamentally by white and red colours. These people are neat in character and they keep their habitation clean.

## **11. METHODS AND EQUIPMENT**

### **11.1 Tasks**

#### **11.1.1 Mining Tasks**

In Barpahari of Birbhum and in Saltora of Bankura mines are sub-soil. In rest other places mines superficial and no more than 10 feet of begin if necessary. Basalt or granite deposits are drilled and blasted by dynamite sticks. Where the mines are sub soil, deposits are found from 6 to 20 meters depth from the surface.

#### **11.1.2 Processing Tasks**

Blasted stones or boulders are broken in to 10 to 20 centimeters pieces by hammers which are called 'cheli' and used in crushers. From a mine boulders supplied to a crusher in the sizes ranging from 30 to 50 centimeters in diameter.

## **12. Equipment**

### **12.1.1 Mining Equipment**

In very mall quarries only equipment used is electric drill. I a larger quarry there is earth cutters, compressors, drills and dumpers used to dig out stones and delivery to the crusher.

### **12.1.2 Processing Equipment**

Processing is not necessary in case of black stone mining.

### **13. Method – Transport**

Transportation is done in a small quarry by normal trucks even by tractors. But in medium and bigger mines delivery is done by dumpers.

### **14. Methods and Equipment in One or Two Case Study Village(s)**

In Murlu village near Saltora of Bankura district there is quarry stated this year by a young man of 26 years of age. It is operating in a area of 1.5 acres. It hasn't got the license to use explosive and the owner started the mine taking bank loan. He has no provision to establish a crusher and to keep at least one truck for delivery. So the owner is using explosive illegally and his maximum production in a day is 7 to 10 ton which is causing difficulty to the owner to repay his bank loan.

He has no manager to run the quarry. He personally knows all his labours as he appointed them by himself. His labours, though work in contract, are the same this day as they were from the beginning. Number of labours working here is 28.

But in another case, that in Barpahari of Birbhum – Rampurhat border, there is a big quarry running for last 15 years by 'Bhagawan Das mining company'. It has its own stone crusher adjoining to the quarry. There are 68 labours working in this mine and crusher. There is a manager who controls the appointments of the mates of the quarry and of the crusher. He makes payment to the mates for the labours on behalf of the owner. Mate there appoints the labours.

### **15. INCOME AND FINANCIAL FLOWS**

#### **15.1 Income**

##### **15.1.1 Daily Income**

Daily income varies from mine to mine depending on its production. Normally quarry owners get Rs.150 per truck, that is, 4 ton of boulder produced. So a small quarry owner earns Rs.1,200 a day where as a bigger quarry owner as said in the second case earlier earns around Rs.4,000 a day.

##### **15.1.2 Monthly Income**

Normally in seasons working day in a month varies from 20 to 25. So earning for a small mine ranges from 20,000 to 30,000 a month, in case of bigger quarry it ranges from 80,000 to 100,000 a month.

### **15.1.3 Annual Income**

These quarries run for 6 to 8 months a year. So a small quarry earns Rs.250,000 to Rs.350,000 and a owner of a bigger quarry earns Rs.960,000 to Rs.1,200,000 a year.

## **16. LEGAL AND ADMINISTRATIVE ISSUES**

### **16.1 Law and Order and Human Rights**

#### **16.1.1 Law and Order**

In Barpahari area of Birbhum and in Pakur area of Jharkhand there are many big quarries run in a single block where total number of labours is nearly a thousand. In these area law and order problems sometimes break out but the frequency is low and no big crime is reported to the police in last two years. In other areas the quarry a small and labour working there are from same village or from neighbouring villages so there is no mentionable law and order problems in this quarries.

#### **16.1.2 Human Rights**

The labours workings in these mines are deprived in many ways. Central, State or local self Government overlooking to the facts of their need for pure drinking water, transportation, facility of education, at least secondary standard and minimum health service is not met with.

### **16.2 Overview of Legal Issues**

#### **16.2.1 Exploration Licenses**

District Magistrate or District Collector, locally by the Block level Officer on behalf of him,

#### **16.2.2 Mining Licenses**

District Mining Officer and Director General Mines Safety.

#### **16.2.3 Central Government Measures to Legalise Informal Mining**

Permission for mining is comparatively easy to collect from these authorities if no objection is there from pollution control board and forest department.

#### **16.3.1 Conflict with Environmental Protection Laws of the Country**

Quarries do not cause direct pollution of any kind to the nature except disturbing the surface soil. But where there is basalt or granite stone deposit even under 6 meters of soil, no agricultural work is possible on that ground. Only forestation of some plants can be possible there.

### 16.3.2 Conflict with Water Laws of the Country

There is no direct connection of a stone quarry or a stone crusher to the pollution of water of any kind.

Sector	Employment (in million)				Annual growth (%)			
	1983	1987-88	1993-94	1999-2000	1983 to 1987 - 1988	1987 - 1988 to 1993 - 1994	1983 to 1993 - 1994	1993 - 1994 to 1999 - 2000
<b>Agriculture</b>	151.35	163.82	190.72	190.94	1.77	2.57	2.23	0.02
<b>Industry</b>								
Mining & Quarrying	1.74	2.4	2.54	2.26	7.35	1	3.68	-1.91
Manufacturing	27.69	32.53	35	40.79	3.64	1.23	2.26	2.58
Electricity, Gas and Water supply	0.83	0.94	1.43	1.15	2.87	7.19	5.31	-3.55
Construction	7.17	11.98	11.02	14.95	12.08	-1.38	4.18	5.21
<b>Services</b>								
Trade, hotels & restaurant	18.17	22.53	26.88	37.54	4.89	2.99	3.8	5.72
Transport, storage and communication	6.99	8.05	9.88	13.65	3.21	3.46	3.35	5.53
Financial, insurance, real estate and business services	2.1	2.59	3.37	4.62	4.72	4.5	4.6	5.4
Community, social and personal services	23.52	27.77	34.98	30.84	3.57	4.06	3.85	-2.08
<b>All Sectors</b>	<b>239.57</b>	<b>272.39</b>	<b>315.84</b>	<b>336.75</b>	<b>2.89</b>	<b>2.5</b>	<b>2.67</b>	<b>1.07</b>

Source : NSSO - different rounds.

## 17. CONTACT LIST RESOURCE PERSONS AND GOVT. OFFICIALS.

- 1) Feku Ram, District mining officer, Dumka
- 2) Kamaleswari Das, District mining officer, Pakur
- 3) District mining officer, Bankura and Purulia
- 4) Ajay Kr. Hansraj, Dumka
- 5) Surendra Kr. Singh, Pakur
- 6) G.C. Dey, Forest Range Officer, Saltora, Bankura
- 7) Madhusudan Pal, Saltora, Bankura
- 8) Ujjal Chakraborty, Saltora, Bankura
- 9) Nilu Maji, Saltora, Bankura

- 10) Buddhadeb Maity, Saltora, Bankura
- 11) R. K. Kapoor, Barpahari, Birbhum
- 12) Imtiaz Rasul, Rampurhat

#### **18. BIBLIOGRAPHY OF PAPERS AND REPORTS USED.**

- 1) District Statistical Handbook, 2003, Pakur, Jharkhand
- 2) District Statistical Handbook, 2003, Dumka, Jharkhand
- 3) District Statistical Handbook, 2003, Sahebganj, Jharkhand
- 4) District Statistical Handbook, 2003, Bankura, West Bengal
- 5) District Statistical Handbook, 2003, Birbhum, West Bengal
- 6) Census report, Jharkhand, 2001
- 7) Statistics of mines in India, Volume II (non – coal) 2001
- 8) West Bengal Human Development Report, 2004
- 9) Economic Survey, 2003 – 2004, Govt. of India
- 10) Economic Review, 2003 – 2004, Statistical Appendix, Govt. of West Bengal