

HEALTH STATUS OF MINING LABOURERS IN BELLARY DISTRICT

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Abstract: Mining may well have been the second of humankind's earliest endeavours granted that agriculture was the first. The two industries ranked together as the primary or basic industries of early civilization. Little has changed in the importance of these industries since the beginning of civilization. If we consider fishing and lumbering as part of agriculture and oil and gas production as part of mining, then agriculture and mining continue to supply all the basic resources used by modern civilization. The study objectives are mining labours in Karnataka to determine the morbidity pattern among labourers engaged actively in mining activities. 1 The reasons behind the prevalence of health issues, 2 the frequency and occurrences of health harms, 3 the socio-economic conditions of mining labourer health. The study used Primary Data has been collected through random sampling method in the selected mining areas with the help of the following tools Questionnaires: A questionnaire was prepared for mine labourers with both closed and open ended questions for collecting data on their professional, social, economic, gender and health profile, and interviewing mine labourers who have been working in mining sector for fairly long time (10 years or more) to know the conditions of mine workers and facilities provided in the mines at present and in the past as well. Result of the study indicate that need for regular health check-ups, health education, personal protective devices and engineering control for better health and productivity of the miners.

Key words: Mining, labour, hazardous, morbidity.

INTRODUCTION

Mining is viewed as one of the important economic activities which have the potential of contributing to the development of economies. At the same time, the environmental and health impacts of mining on surrounding communities working labourers. Karnataka is identified as one of the mineral rich states of the country, in this state Ballari is one of the Import mineral recourse District. In this District iron mining Impacts due to mining is manifest as water pollution, land degradation, loss of biodiversity, air pollution, health related problems, occupational noise pollution, vibrations land subsidence's and landslides. Human beings as individuals are an integral part of nature. In fact, the ultimate goal of all the mining and other

industrial activities is to provide comfort to human beings individually. So, if any such activity causes diseases, its purpose is defeated. In many countries, human health is regarded as the biggest and the most valuable asset. Therefore, knowledge of the environmental impact of mining on health of individual human beings is of no less importance.

Mining necessitates appropriate planning, suitable execution, apparent impacts (negative/positive) and possible mitigation measures as it shades long-term effects through short-term benefits usually mining involves different stages which begin from mineral ore exploration and windup with post-closure period. Each stage implicates dissimilar environmental impacts. Since beginning till the end mining encompasses the decrease of water level, release of toxic materials including fly ash and dust, pollution of the water bodies and air, degradation of biodiversity, practise of deforestation etc. which endures a direct negative impact on the health of each and every living being The growing uncertainty regarding the health impact of mining industries coincide with a debatable phenomenon concerning the exploitation of mineral resources and conservation of environmental solidity. Consequently, the mining activities are stirring towards national development by tackling the environmental stability which in turn accustoms the foundation for inimical health The unfavourable environment not merely emphasises the hostile condition of the living beings but it also leads both chronic and acute health stigmas . Health can be defined “as a state of complete physical, mental and social well-being of an individual, and not merely the absence of disease and infirmity” (World Health organisation, 2005). But in a mining set-up the definition of health is absolutely unjustifiable as it incorporates to overcome the potential negative impacts driven by mining itself. By no means, mining can ascertain itself environment friendly as the minerals are predetermined in nature and also non-renewable. However, the well designed and well-managed mines are also fuelling undesirable ‘environmental footprints’ (CSE, 2006). The widespread damage of environment point outs severe chronic and acute health implications both in case of human beings as well as other living organisms such as flora, fauna and live-stock By keeping the above discussed threats in mind the present section is an attempt to analyse the potential negative impacts of coal mining on the health of rural people in Mining labourers So the present section will analyse the following aspects:

1. The reasons behind the prevalence of health issues
2. The frequency and occurrences of health harms
3. The socio-economic cost of health

There are 266 iron ore mines in Karnataka, out of which 134 are located in forest areas. In the Bellary District, 148 mines (out of which 98 are in forest areas) cover 10,598 hectares of land. The Indian Bureau of Mines in 2005 estimated the

total iron ore mineral reserves to be about 1148 million tonnes.¹ The Supreme Court Central Empowered Committee has assessed that even at conservative estimates, at the present rate reserves in the State will be exhausted in about 20 years.

Iron ore mining in Bellary took off in 1999, paved by the 1993 National Mineral Policy that began encouraging private players to participate in iron ore mining.² It received a further push when the Karnataka State Mining Policy in the year 2000 outlined a policy of “Export Oriented Development”. Finally, in March 2003, the state government de-reserved 11,620 square km for private mining that was formerly marked for mining by state entities alone.³ The changes in mining policy went hand in hand with increasing demand from China due to the Beijing Olympics that caused iron ore prices to soar. From around Rs. 1,300 per tonne in 2000 it crossed Rs. 4,500 per tonne in 2005-06.

REVIEW OF LITERATURE

Ahmad Salim(2001) “Mine Workers: Working and Living Conditions” The paper discusses in detail the plight of the mineworkers and the working conditions in the mines in Pakistan. Explains how fatal accidents take place in the mines due to insufficient safety measure; and how miners develop various diseases. The study answers the questions such as why are such deplorable conditions prevailing and what answers the may be the solution?

Sarang Vilas Dhatrak et al, (2014) “Health Status Evaluation of Limestone Mine Workers” This paper is deals with in mine workers what they facing health problem Mining is a hazardous occupation in which workers are exposed to adverse conditions. In India’s. The present study was carried out in a limestone mine in India to determine the morbidity pattern among workers engaged actively in mining activities. The health status of the employees was evaluated by well-defined medical questionnaire along with pulmonary function test (PFT). Findings of the study showed poor literacy rate amongst the miners. Lung function test showed restrictive impairment in about 15% of miners. Hypertension, diabetes and musculoskeletal morbidity were prevalent in miners. There are very few studies carried out among the miners pertaining to the health status. Most of the studies has been carried out to determine the prevalence of pneumoconiosis mainly silicosis. This may be the first kind of study among limestone mine workers depicting the overall health status.

Sarang Vilas Dhatrak1 et al, (2014) “Health Status Evaluation of Limestone Mine Workers” This paper discussed have been health status of mining workers and socio-economics conditions of that workers. Mining is a hazardous occupation in which workers are exposed to adverse conditions, the present study was carried out in a limestone mine in India to determine the morbidity pattern among workers engaged actively in mining activities ‘The health status of the employees was

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Absar Ahmad (2015) “Socio-economic and health status of sandstone miners: a case study of Sorya village, Karauli, Rajasthan” This study is carried out with aims to assess socio-economic and health status of the miners in Sorya Village of Karauli district of Rajasthan, India. Mining as always been among the most hazardous of occupations and rapidly increasing demand for metal and minerals to meet the demand for growing infrastructure has greatly increased the importance of mining. The quarrying and crushing are carried out in many parts of India and majority of stone mines are unorganized. A cross sectional study was conducted among 126 miners in Sorya village, Karauli during 20 to 30 May, Average ages of miner were 41 and average household sizes of the miners were six. Around 80 % miners addicted to substance abuse and spend average Rs. 17 daily. Average monthly incomes of them were Rs. 3200 and 39 % has miners are in debt of more than 1 lakh. One of the reasons of debt was father died in debt and carried forward to the children. Seventy-seven percent of miners belong to lower caste and rest of them belongs to other backward class. Average BMI of miners was 19.7 kg/m² and 38% miner were malnourished (BMI <18.5 kg/m²). Health problem reported by most of them were TB, silicosis, chest pain, back pain, Cough and Musculoskeletal disorder. Some of miners reported about low vision and hearing loss too. From the study, it can be concluded that one of the reasons for miner’s indebtedness is father carried forward to their son. Sandstone mining leads to Silicosis, TB, and musculoskeletal disorder. Large sample size studies will give a clearer picture that will helpful in policy implication for more than 2.5 million miners in Rajasthan, India.

Dr Nidhi Rai (2016) “Periodontal Health in the Marble Mining Workers of Udaipur City, India.” This paper was aimed to evaluate the periodontal status of the mining workers of the Udaipur city and compare the same with the general population. of the study emphasize the need of developing the healthy working environment for the mining employees by providing them the protective wares, by giving them the proper oral hygiene training, by scheduling the periodic oral health check-ups regularly and by educating them about the ill effects of the oral habits and there by aiding them in quitting the habit.

A. M. Donoghue (2014) “Occupational health hazards in mining: an overview” Mining is an ancient occupation, long recognized as being arduous and liable to

injury and disease The lifecycle of mining consists of exploration, mine development, mine operation, decommissioning and land rehabilitation. This review article outlines the physical, chemical, biological, ergonomic and psychosocial occupational health hazards of mining and associated metallurgical processes. Mining remains an important industrial sector in many parts of the world and although substantial progress has been made in the control of occupational health hazards, there remains room for further risk reduction. This applies particularly to traumatic injury hazards, ergonomic hazards and noise. Vigilance is also required to ensure exposures to coal dust and crystalline silica remain effectively controlled.

OBJECTIVE

1. To assess the health conditions and effects situations confronted by labourers at the mining place.
2. To study the social-economic conditions of mining labourers.
3. To Study of the Health status of mining slabourers.
4. What are the health effects of mining on the mining labours living in the surrounding study area?

HYPOTHESES

1. Appreciation of mining effects on the health by residents is related to
2. Their number of years working in mining
3. The rate of infection of malaria and respiratory tract infections among residents is inversely related to distance from the mines

METHODOLOGY

The proposed study is based on both primary and secondary data. Methodology adopted for the study is both descriptive and analytical. Primary data is to be collected from by using tools and techniques like observation, questionnaire, interview method, case study, sampling method- that also Multi-stage Random Sampling methods etc. Secondary data collected from various sources like-internet, research books. Newspapers, journals, articles, magazines, libraries, documentary reports, and past studies, etc.

SAMPLE SIZE

The sample size is decided to take up about 500 respondents of mining affected. It is estimated about 25,000 mining labours working in Bellary district. The random sampling method is used for selecting the respondents. In this district mines are mainly located on the belt of Hospet, Sandur and Bellary.

AREA OF STUDY

The area of study is confined to the Ballari district only. Mines are located in major belts like Bellary, Hospet and Sandur etc. Since several decades these places witnessed more for mining activities and largely adverse affected on Labourers of surrounding villages. Therefore this study is focused on health conditions of mining labourers of Ballari.

JUSTIFICATION AND SIGNIFICANCE OF THE STUDY

The present study examines the impact of mining on the health of workers and people in and surroundings thereby. All mining is dangerous, and it is difficult for miners to earn a livelihood while also protecting their health and the environment. But there are ways to make mining safer. Often the only way to get the mining industry to use less harmful methods is through community pressure. Mining conditions are very different depending on the location, type, and size of the mining operation. By understanding mining's threats to health and long-term well-being and by taking precautions to reduce harm in all mines, miners and other people in mining communities can better protect their health and improve their lives.

MINING AND HEALTH

The effects of mining's Impact on the earth are magnified in their effects on human health. Most of the peoples living in impacted communities don't know their health is at risk until their families' relatives or neighbors begin showing signs of illness. Health Condition from mining is diverse and complex. Impacts of mining may have negative effects on the

Quality of life and lifestyle choices of a particular community. Individuals may exhibit physical or mental/emotional illness and the behavior of entire communities may substantially change. The large amount of dust raised from mining had resulted in the influx of number of diseases blood pressure. Diabetes, asthma, skin diseases, allergy are the gifts of 'mining'. Degradation of human health is another major issue to be looked into. Red Alert a documentary made by non-governmental organization (NGO) saki, records the health problems of mine workers. According to a mine worker, they always have stomach pain with every gulp of tea as they take in dust. The mining area has high incidence of lung infections, heart problems of dust deering transportation and as there are no basic standards fixed action can be taken according to Karnataka State Pollution Control Board environment officer. Villages using the contaminated TungaBhadra Water complain of stomach 156 Ailments (as in Hirehalli in Bellary) and Soil Infertility (in Kamalapura at Hampi). In Bellary, Hospet and Sandur about 25,000 mining Labourers in the private sector work 14 hours a day for rs.60 a week. The labour-intensity nature of India's mining industry. Which is going on to continue as such,

with further intensification despite mechanization efforts and leads for serious and sincere efforts in this vital field of environmental problem. Important factors that affect the health of workers in this regard are;

- (a) Generation of dust more particularly irrespirable dust.
- (b) Workplace environment and conditions.
- (c) Noise and vibrations, the later particularly hand-transmitted.

Investigations on this subject by CMRs (Central Mineral Resources) in some coal mines and industrial areas of Jharia and Raniganj coal fields have revealed that 19-20% of population is suffering from respiratory diseases (Silicosis) and 23.25% from gastro-intestinal problems. Diseases like malaria pneumonia, tuberculosis, fever etc. account for another 16%. (R.N.Trivedi- 2001).

STATUS ON HUMAN HEALTH

Human beings as individuals are an integral part of nature. In fact, the ultimate goal of all the mining and other industrial activities is to provide comfort to human beings individually. So, if any such activity causes diseases, its purpose is defeated. In many countries, human health is regarded as the biggest and the most valuable asset. Therefore, knowledge of the environmental impact of mining on health of individual human beings is of no less importance,

In the mining operation, the dust generation due to digging of land, movement of machinery on unpaved surfaces & handling of rejects, sub-grade ore & waste products is common. The impacts on air, due to generation of dust during loading, unloading and transportation of ore and some emissions from the transporting trucks. The air pollutants are Suspended Particulate Matter emissions from the activity.

The industrial development in the study area is because of availability of rich source of Iron ore, manpower and good communication facilities. It is important to caution industrial growth unless proper planning and zoning is done. The development may result in economic growth at the cost of lowering the quality of life by infrastructure and environmental stress. The study area is being identified as one of the hot spots in mining activity. The increase in mining activity in the region will lead to further deterioration of water quality of River Tungabhadra and various streams. It is likely to raise the suspended particulate matter (SPM) leading to adverse health impacts. The increase in mining has caused pollution and environment degradation. The infrastructure is being overburdened and National Highway No.13 and State Highways are in bad shape due to movement of over loaded heavy trucks and vehicles. About 95% of the industries located in the region are predominantly polluting air. The major Polluting industries are (1) Mining (2) Iron ore processing industries and (3) Steel Industries (Macro Level Environmental Impact Assessment Study (2011) Report of Bellary District, Karnataka. Volume I).

Mining Impact on human health is based on the survey and data collected for assessing the water quality and prediction of the impacts due to mining activities in the study area is poor water quality due to presence of iron (Fe) and manganese (Mn) in groundwater and surface water sources around mining areas of North and North Eastern parts of the study area and problem of excessive concentration of fluoride in ground water in some of the villages such as is still persisting, To assess the impact of mining on human health, data were obtained on incidences of various diseases from Primary Health Centers (PHC) of Bellary, Hospet and Sandur taluks. Data were provided from four Health care centers of Sandur taluk, seven Health care centers of Hospet taluk and twelve Health care centers from Bellary taluk and is indicative of health status in and around mining villages. The number of patients treated/registered for diarrhoea, respiratory infections and other diseases.

Mining causes serious accidents such as fires, explosions, or collapsed mine tunnels that affect miners and people living in communities near mines. Even in places where mining happened long ago, people can still be exposed to health threats from mining waste and chemicals that remain in the soil and water. Mining damages health in many ways:

- Dust, chemical spills, harmful fumes, heavy metals and radiation can poison workers and cause life-long health problems as well as allergic reactions and other immediate problems.
- Heavy lifting and working with the body in awkward positions can lead to injuries to the arms, legs, and back.
- Use of jackhammers or other vibrating machinery can cause damage to nerves and blood circulation, and lead to loss of feeling, very dangerous infections such as gangrene, and even death.
- Loud, constant noise from machines can cause hearing problems, including deafness.
- Long hours working underground with little light can harm vision. Working in very hot conditions without drinking enough water can cause heat stress. Signs of heat stress include: dizziness, weakness, rapid heartbeat, extreme thirst, and fainting.
- Hiring and labour practices of mining companies create divisions among families, neighbours, and communities. These disagreements can lead to tears in the social fabric, an increase in personal stress, and mental health problems throughout the community.
- Water pollution and overuse of water resources leads to many health problems
- Air pollution from power plants and smelting factories built near mines causes serious illness.

- The mining has affected the population also. There are changes in the birth, death and refugee areas. The mother and the child are facing many problems. The duration of birth process has increased. The nature of new born babies has changed. The child mortality is likely to increase as people have to migrate to new places in search of jobs

FINDINGS

The study findings indicate the need for regular health check-ups, health education, personal protective devices and engineering control for better health and productivity of the miners

CONCLUSION

Mining is considered as one of the major economic activities which have the potential of contributing to the development of economies. Not only do mining companies prosper, but governments also make money from revenues. Workers also receive income and benefits. At the same time, the environmental and health impacts of mining have been a major concern to governments and society.

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