IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Health Conditions of Mining Labourers in Karnataka

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Abstract

Karnataka is identified as one of mineral rich states of the country. Mining provides substantial non-tax revenue to the state's exchequer. Since Karnataka is one of most biodiversity rich state, it is important to preserve these natural resources for the wellbeing of the coming generations. 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, its impact on labourers and surrounding communities have been a major concerns to government, the general public and stakeholders and individuals.

The objectives*:* of this paper is to understand the nature of work, causes, and hazardous situations labourers confronted with. This also analyses the health conditions – socio-economic background of mining labourers of HK region in particular and Karnataka state in general.

Methodology**:** The study is based on primary and secondary data collected from mining prone areas. Though, mines have some positive impact, such as employment opportunity and infrastructural development but their impact on health is negative, which can occur through both environmental and health channels. The impacts of mining on the health are magnified. The mining damages health in many ways dust, chemical spills, harmful fumes, heavy metals and radiation can poison labourers and cause life-long health problems to them.The present study paper says if a mine labourer met an accident at work place, he may ends up with losing his limbs. Whereas the dust contaminated with noxious elements that he inhales it troubles health. The mine labourer may suffer by asthma, tuberculosis and other diseases and loses his eyesight.

Conclusion: 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 labourers.

Key words: Mining, labour, Health, hazardous.

Introduction

Natural resources are an integral part of all human civilization. On Earth, the intrinsic elements include fresh air, water, soil, plants, minerals and animals. Among them minerals are valuable natural resources that are finite and non-renewable. They constitute the vital raw materials for many basic industries and are a major resource for development. The History of mineral extraction in India dates back to the days of the Harappa civilization. The exploitation of minerals has to be guided by long-term national goals and perspectives. Thus, minerals play a key role in the evolution of human society and the development of leading economies.

Mininghave been the second of human kind'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.

What is mining?

In simple term mining is an extraction–removal of overburden ore from the ground and underground. Mining is the process of extracting minerals like gold,silver, copper, nickel and uranium (metallic) and salt,potash,cool and oil (non-metallic) formation that concentrate naturally in the earth.

Definition of Health

Contemporary philosophy of health has been quite focused on the problem of determining the nature of the concepts of health, illness and disease from a scientific point of view. Health now considered being one of our most important values.

World Health Organization-2005 defined a more holistic concept of health as *"a state of complete physical, mental and social well-being of an individual, and not merely as the absence of disease or infirmity".*

Thus, health is a good that is almost universally desired. It is not only instrumental to obtaining many other goods of life, it seems good in itself. Indeed, in most western cultures, health has become a virtual cultural obsession, resulting in steadily growing demands on health care systems and in burgeoning industries in wellness and alternative medicine. in the united states alone, billions of dollars are spent every year in pursuit of health.

The following aspects of definition are very helpful.

- Health goes beyond physical considerations.
- Health is viewed in its psycho-somatic entirety.
- Health in not limited to the person as an individual, but is also expressed in the person's relationship with the surrounding world.
- Health is understood in terms of (subjectively-experienced) well-being.
- Health is more than the absence of disease.

Karnataka

Karnataka, India's eighth largest state in terms of geographical area (191791 sq.km) is home to 6.11 crore people (2011 Census) accounting for 5.05% of India's population. The state's population has grown by 15.7% during the last decade, while its population density has risen from 276 in 2001 to 319 in 2011, indicating an increase of about 15.6%.While birth rate in the State has declined to 19.2 in 2011 (from 22.2 in the year 2000), indicating a decline of about 9%, the death rate has declined at a lower rate of 6.5% from 7.6 in 2000 to 7.1 in 2011. The consequent demographic changes are expected to open up new opportunities as well as challenges for the state. 50.80% of the population is male with a child sex ratio of 943 female to 1000 males in 2011 (as against 946 female to 1000 males in 2001) and the adult sex ratio at 968 female to 1000 males (against 965 female to 1000 males in 2001). It is a matter of concern that there has been a perceptible decline in the child sex ratio from 2001 to 2011, and that this decline is especially marked in some of the districts such as Chamarajanagar (decline of 22 as compared to 2001), Davangere (decline of 15), Chitradurga (decline of 13) and Hassan (decline of 12). There is a significant decline of 2.30% in the state's child population of 0-6 years, but the decline is uneven across the state. In Yadgir district, 0-6 year old children constituted 15.83 % of the population whereas in Udupi, it was just 8.54%, indicating differential developmental needs of districts within the State.

Karnataka is identified as one of the mineral rich states of the country. Mining provides substantial non-tax revenue to the state's exchequer. Since Karnataka is one of the most biodiversity rich state, it is important to use these natural resources available with least impact on environment. (Mining and quarrying, State of the environment report 2003). Environmental 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. Minerals are important natural, finite and non-renewable valuable resources essential for mankind. "Minerals are the treasures of the State", therefore, systematic, scientific and sustainable harnessing of mineral wealth should be the cornerstone of development objectives of the state. The utilization of these minerals has to be guided by long term goals and perspectives. As these goals and perspectives are dynamic and responsive to the economic scenario, the Karnataka mineral policy has to evolve. It is therefore necessary to revisit the Karnataka Mineral Policy 2000.Karnataka is one of the mineral rich states in India, with an area of 1.92 lakh sq.km. Covering 29 districts. The state has a vast and varied Geological setting right from Precambrian to recent formations, with 40,000 Sq. Kms of green stone belts endowed with valuable mineral resources like gold, silver, copper, iron, manganese, limestone, dolomite, chromite, magnetite and other useful rock formations like granite etc.

District wise production of major and minor minerals

Mineral	Average annual production (Million tons)	Districts
Iron ore fines (Hematite and magnetite)	18.7	Chikamagalur, Chitradurga, Bijapur,Dharwad,Tumkur, and Uttara Kannada.
Line stone, Lime Shell and Dolomite	10.42	Gulbarga, Chitradurg, Belgaum, Bijapur, and Tumkur.
Manganese	0.25	Bellary, Shimoga, Uttara Kannada, Chitradurga, , and Tumkur
Magnetite	0.085	Mysore
Gold	1.583 (tons)	Raichur, Kolar
Building Stone	2.42	19 districts,mainly in Bangalore (S&N), Bellary, Belgaum, D.Kannada,Mandya,Mysore, Mysore, Shimoga, Chitradurga, , and Tumkur
Ordinary sand	0.88	17 districts, mainly in Belgaum, Dharwad, Shimoga, Uttara Kannada, Tumkur and D.Kannada.
Granite	109.000(cu.m)	17 districts, mainly in Bangalore, Tumkur, Bijapur, Bagalkot Mysore, Raichur.
Shahabad Stone	5.51(million sq.ft)	Mainly in Bijapur, and Gulbarga.
Laterite	0.46(lakh tons)	Mainly in Dakshina Kannada
Brick earth	1.88	Mainly in Bangalore, Tumkur, Chitradurga and Kolar

District wise production and lease area for major minerals

Districts	Minerals Produced	% production	Total lease Area	Mine area under forest	% of mine lease area under forest
Bellary	Iron ore	39.94	16973	11130	65.5
	Manganese	0.81			
Gulburga	Lime stone	23.41	2689	0	0
Chikamagalur	Iron ore fines	17.95	4679	4509	96.3
Chitradurga	Iron Ore	7	1989	757	38
	Lime Stone	0.7			
	Manganese	0.08			
Bijapur	Lime stone	4.5	--	--	--
	Iron ore	0.52		--	--
Other Districts	Other minerals	5.09	--	--	--

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 Conditionfrom 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.

Health Conditions of Mining Labourers:

Mining causes serious accidents such as fires, explosions, or collapsed mine tunnels that affect miners and people living in communities nearby. Even in places where mining happened long ago, people can still be exposed to health diseases 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 Labourers 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

To analyse the impact of mining on labourer's health three major aspects such as reasons behind diseases, frequencies of diseases and the cost of illness were explored. Mining pollutants is the sole reason for the occurrence of fatal diseases. Women have direct contact with water sources for performing household's activities such as washing clothes, bathing children and collecting water which has resulted in marked irritation in the skin, respiratory tract, nasal ulcers, pneumonia etc. Mining related activities have resulted in the emission of loud noise which has disrupted the lives of those in the surrounding communities anda labourer has reduced the quality of life.

Laborers faced so money health problems, because they often live in crowded conditions, work long hours without enough food, and have little access to health care or medicines, they have a high risk of getting TB. Signs of TB include a bad cough that will not go away, fever, coughing up blood, feeling weak, weight loss, and night sweats. Without proper treatment, a person can spread TB to others and can die.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 thegifts 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 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 due to dust 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).

Illness due to Mining:

Lung damage caused by rock and mineral dust is a major health problem. Whether you are mining underground or above ground, you may develop lung damage if dust covers your clothes, body, and equipment as you work. Cough a lot and have trouble breathingOnce dust has damaged the lungs, there is no way to reverse the damage.Dust is a threat both to mineworkers and to communities near mines.The most dangerous kinds of dust are coal dust,which causes black lungdisease**,** and silica dust, which causes silicosis. Dust that contains asbestos or heavy metals is also dangerous.

Social Problems of Laborersin Surrounding Area:

Mining effects on health of people directly, when they work in dangerous areas and are exposed to toxic chemicals. It also affects people's health through the social problems it brings. Mining towns and camps develop quickly, with little planning or care. This usually causes many problems. Men come looking for work in the mines, women who need income become sex workers, and this combination can lead to the rapid passing of HIV/AIDS and other sexually transmitted infections. The sudden wealth and sudden poverty that mining brings is often accompanied by increased violence against women and children, abuse of workers by mine owners, and fights for control over resources. Many people are forced to leave the community by the violence or because it becomes impossible for them to continue living as they did before the mine opened .When a mining operation is too dangerous, unhealthy, or polluting, it should be shut down. But mine workers should not be abandoned to unemployment and poverty. Communities must demand that plans for their well-being and Livelihood are included in plans for and cost of shutting down the mine. 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 (Sandur taluk) 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).

Diseases in PHCs of Karnataka HK district (Hospet and Sandur) and miming area surrounding district

Year	Acute Diarrhoeal Disease			Acute Respiratory			Other Diseases	Total
	Male	Female	Child	Male	Female	Child		
2010	7949	8231	6350	17253	16985	14210	98751	155519
2011	8997	7982	5127	11248	11657	11654	98998	144,006
2012	11088	8975	6985	12850	12639	11682	94235	158454
2014	10851	11125	7659	13982	13981	13573	105607	1767778
2015	10096	9858	5981	19865	19257	16247	106065	187369

Note: source district health office in selected districts in Karnataka

Deterioration in health, as suggested by the increasing number of patients, in these taluks coincides with the growth in mining activity in the region. Respiratory diseases can be attributed to the fine dust present in the air all the time due to mining and allied activities. Similarly, rise in diarrhoea cases can be attributed to poor quality of water. It is evident from the study that mining activity in Bellary, Hospet and Sandur taluks of Bellary district has several significant direct and indirect negative impacts on cultivation practices, agricultural productivity, livestock population andtheir composition in the mining areas. Excessive movement of heavy overloaded vehicles in and around mining areas has damaged severely road infrastructure in the area. The mining activity was also found to have impact on health of humans and other living beings, which needs to assessed for long terms and addressed in due course of time. Social issues like crimes, accidents, liquor trade etc. were also found to have increased during peak mining activity years in the mining taluks. A complete picture as presented in the table 5.1 indicates that the most of the negative impacts of mining jump started either during 2004-05, 2005-06 or 2006-07 when the legal production of iron ore ranged between 31 million tons to 35 million tons from working mines

Socio-economic and socio-cultural value.

The native population and the aliens have different social and cultural values. New value systems emerge due to mingling of different systems. Native tribal and villagers who were long used to traditional occupations take to totally different kinds of work. Many of the crafts kept alive through generations, are forgotten. Some native people are ousted and settled elsewhere, the social environment of those land ousters getting changed totally, and they have to adjust themselves to new living environments. It is true that such changes are an integral part of the human evolution, and but for such blending of different systems, there would never have been any enrichment of old traditional systems; and human life would have been static and stagnant. But, the difference between the natural and spontaneous change and the change due to industrialization lies in the speed, the latter change being rapid and sudden. It is this suddenness of the change that causes psychological and social tension, at least during the course of one or two generations

Review of Literature:

There are few studies conducted in India so far on theHealth Condition of Mining Labourers.

- ***Joseph Yaw Yeboah B. A.(2008)*** **"** Environmental And Health Impact Of Mining On Surrounding Communities: A Case Study Of AngloGold Ashanti In Obuasi**"** The research examines the environmental and health impacts of AngloGold Ashanti's mining activities on the people of Obuasi and other surrounding communities. Quantitative methods such as chisquare as well as other qualitative methods were employed to analyze findings of the problem investigated.

  The research revealed that mining activities have resulted in land degradation leading to limited land available for local food production and other agricultural purposes in the Obuasi municipality.

- ***S. C. Panda*** et al "Impactof Mining On Health Of Workers At Samaleswari Ocp, Brajaraj Nagar"in this report objectives are 1. Assess morbidity among mining workers. **2**. Compare present findings with previous ones conducted by MCL. **3**. Propose appropriate and timely corrective measures. Methodology based on cross-sectional study conducted at field area of MCL. Sample size taken was 110. Results was Common health problems as per the complains of workers were found to be in the form of musculoskeletal problems (38.35% complained of body ache). 12.7% of workers were found to have high blood pressure during the examination. Skin problem was present in 7.4% of workers. 20% of workers were found to have spirometric findings abnormal (suggestive of obstructive, restrictive & mixed type of respiratory problem). Audiometry findings suggested 5.5% of workers having hearing problem. Platelet count was low in 25.5% of workers. Lipid was raised in 66% of workers. Technical errors in spirometry and x-ray were high. External evaluation will improve the on-going PME conducted by MCL, and so the health status of workers. As per findings of the study, data compilation as well as dissemination needs to be improved. Laboratory standards for spirometry and x-ray procedures seek special attention.

- ***Janis A. Shandro***et al (2011) "Perspectives on community health issues and the mining boom–bust cycle" this study took place in a northern Canadian community that was developed purposefully to support coal mining, and focused on how health and social service providers perceive the mining boom–bust cycle to affect community health. This paper reports on the perceptions that the mining boom–bust cycle has negatively impacted health outcomes for the residents of this community. This paper also reports on recommendations from health and social service providers to enhance the health of this community. Specifically, the mining industry at large, community planners, impact assessors, and policy makers should according to the interviewees focus on: the provision of family counseling services to mitigate negative impacts to family structures resultant from current mining shift rotation

  schedules; ensuring women have access to appropriate health care services (such as transition housing and maternity care) and opportunities for important determinant of health issues (such as employment and child care options); enhancing drug and alcohol policies and support services at the mine site and in the community at large; increasing safety training opportunities for miners and ensuring adequate rehabilitation services are available in case of injury; and guaranteeing a company's presence is not overburdening important health services taking an active role in participating in community health provision (through funding health services)and by collaborating with the appropriate government

authorities to ensure adequate funding has been allocated to support the increased demand on health and service delivery. Consideration of these issues is important, as this study suggests that commitments made by the industry and governments to communities are, at least in the case of Tumbler Ridge, BC, falling short.

- ***Mauricio Romero and Santiago Saavedra(2010*) "**The Effects of Gold Mining on Newborns' Health"In this article, we study the effect of gold mining on newborns' health in Colombia find heterogeneous effects depending on where the mothers are located with respect to a min.The results presented rely on two main assumptions. First, we assume that controlling for time and location fixed effects allows us to estimate the net causal effect of mining on health.Mining is an important revenue source for governments and households in some developing countries. However, there is mixed evidence on the overall welfare effect of mining. We contribute to this literature by estimating the net impact of gold mining on the health of newborns in Colombia. In particular, we estimate the effect on the health of newborns by using a difference in differences approach that compares municipalities before and after mining activity started. As theMeasure of gold activity, we use geographical information systems to estimatepopulation near mines and mining upstream from a river.

- ***Sanjay Sharma(2010)*"**The impact of mining on women: lessons from the coal mining Bowen Basin of Queensland, Australia" the paper examines work, family and community structures and processes that promote and sustain patriarchy in mining communities and within households that could negatively influence mental health and relationship wellbeing of women in mining towns. The paper suggests areas of research and policy initiatives to enhance women's economic self-sufficiency, gender equality and wellbeing. The paper observes a substantial gender divide in sex ratio, income, household division of labor and the representation and participation in occupations and labor force, with women mostly limited to the roles traditionally expected from their gender. All these factors, individually and collectively, directly or indirectly, promote social and economic dependency of women on their male partners.
- ***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? It thus follows that this important industry of the national economy is still groaning under the old exploitative control of capitalism. The disorganized mine labor, isolated from the rest of the labour force of the country, is an easy target of the exploiters. Only a concerted and unified worker body can help protect the rights of these workers and prepare them for the big battles ahead. The problems of miners are inextricably intertwined with the problems faced by the democratic forces of the country. Only a unified all out struggle holds some hope.
- ***Priyambada Pradhan, Dr SudhakarPatra (2014)*"**Impactof Iron Ore Mining on Human Health in Keonjhar District of Odisha" The objective of this paper is to analyse the health status of mining people in keonihar district of odisha. This paper study is a based on primary date information collected from mines

worker,This study is one of the first attempts towards comprehensive analyses of health impacts of mining on the local population, an important stakeholder in the public policy debate surrounding the proposed expansion and privatization of the mining industry in Orissa. We find consistent environmental health impacts as villagers living in close proximity to mines have higher incidences of ARI and lose more workdays due to malaria. The paper provides important insights on the full impacts of mines, encouraging policy makers to look beyond the obvious positive economic impacts of mining. Of course, these may not be inevitable impacts of mines, but rather, possible to mitigate with appropriate regulation and enforcement, imposing accountability for local environmental and health quality.

- ***Masako Nagase***(2012)"Does a Multi-Dimensional Concept of Health Include Spirituality? Analysis of Japan Health Science Council's Discussions on WHO' Definition of Health' (1998)" the objective of this study seeks to contribute to the conceptual definition of 'health' and elucidate the challenges involved in incorporating 'spirituality' as a dimension of health in the field of contemporary medical care. This study uses the minutes of the meetings to explore the members' implicit understanding of 'health', varied interpretations of 'spirituality', and reservations against the inclusion of 'spirituality' in the official definition of health. This study result is define health as a whole concept rather than as a framework in modern science, there needs to be a paradigm shift amongst medical scientists and other natural scientists so that 'health' can be considered separately from the issue on **'**the presence or absence of disease'**.**
- ***H.N.Jagtap (2015)*** " Spatial Analysis Of Soil Contamination By Iron Ore Mining Of Bellary-Hospet–Sander Iron Ore Mining Region, Karnataka: A Quantitative Approach" In this study intends to evaluate the spatial variation in soil contamination by iron ore Mining of Bellary district with the following objectives. To evaluate the mining impact in main expressions of physical and chemical components of soil of the BHS region by applying quantitative techniques. To know the adverse impact of the iron ore mining on the agricultural soil of the region**.**Hypotheses is the vicinity of the mining area the concentration of different types of acidic chemicals are more in soil and which not only leads to loss of fertility but also contaminates and it decreases as we go away from the mining area. in this paper use the methods of studied using linear discriminate analysis and partial correlation analysis. the fact that the different types of acidic chemicals are concentrated in agricultural soil and affected area of the Bellary district; simultaneously mining eruption damaged the fertility of the soil. Thus, these statistical techniques can be used for pollution monitoring studies in any mining area.

Objectives of the Study:

The objectives: of this paper is to understand the nature of work, causes, and hazardous situations labourers confronted with. This also analyses the health conditions – socio-economic background of mining labourers of HK region in particular and Karnataka state in general.

Methodology:

The proposed study is based on both primaryand secondary data. Methodology adopted for the study is both descriptive and analytical.Primarydata 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 methodsetc. Secondary data collectedfrom various sources like-internet, research books.Newspapers, journals, articles, magazines, libraries, documentary reports, and past studies, etc.

Sample Size:

The sample size is decidedto take up about 500 respondents of mining affected. It is estimated about 25,000 mining labours working in HK region.The random sampling method is used for selecting the respondents. In this district mines are mainly located on the belt ofHospet, Sandur and Bellary.And Karnataka state in general some districts also added to aver study.

Area of Study:

The area of study is confined to the Karnataka special reference to HK region only. Mines are located in major belts like Bellary, Hospet and Sandur, Gulbarga, Raichur,(HK Region) and other district also mining activity Running in Chikamagalur, Chitradurga, Bijapur,Dharwad,Tumkur, and Uttara Kannada. etc.Since several decades theseplaceswitnessed 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 Karnataka.

Significance of the Study:

The present study examines the impact of mining on the health of workersand 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.

Conclusion:

Mining industry also has twin effects on human life. On the one hand, it contributes immensely to the enhancement of comfort and living standard of man. On the other hand, it pollutes the air and water. It has a hazardous effect on the landscape as also on the traditional socio-economic and socio cultural values. Quantitative assessment of the extent of damage caused to the environment by the mining industry alone, has not been made. Mining and processing of minerals is one of the factors causing pollution of the environment restoration of which requires costly investments. In India, the degree of mechanization in mining is yet to reach saturation or near saturation point as in the developed countries. Here, the mining method is mostly traditional and labor-intensive. It is, therefore, in the fitness of things that the environmental protection measures in Indian mines have, by and large been people oriented. The Indian mineral legislation has traditionally provided for various labor welfare measures with a view to maintaining health of the society at large.

Mining is consideredas 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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