

**Impact of industrial environment on socio-economic conditions of mine workers: A study of coal industries in Odisha**

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**Introduction**

In the process of industrialization and output generation, working community play a vital role. The working environment and working conditions of worker is equally important to that of capital and organization to promote sustainable development. The socio-economic condition of coal mine workers in this study covers various dimensions of workers such as: working conditions, work environments, occupational hazards and industrial accidents and income generation etc. The conditions under which the workers perform their duty have a great bearing on their general health, efficiency and productivity. The performance is affected by environmental problem such as temperature, noise, ventilation, humidity, work zone air quality and ambient air quality etc. The continuous exposure of the miners to such unhealthy atmosphere leads to fatigue and boredom ultimately leading to the serious fatal accidents. So it has been correctly said that a perfect man can be from a good and healthy environment. The piece of research is mainly meant of the economic policy measures for the control of environment pollution particularly in the coal industry. Since the coal industry has been already identified as one of the most polluted units in the country, this study is very much contextual and worthwhile from the angle of policy decision making. Again, the study is based on grass root level observation covering socio- economic aspect of the groups affected by the pollution due to coal mines. We are hopeful that it will provide a pragmatic approach to the policy measures in the context of pollution control.

The main objectives of the present study are as follows:

- To examine the changes in the socio economic condition of the workers over a period of time.
- To examine the income pattern of the miners.
- To examine the degree of variability of income of company workers and contract workers.

- To determine work environment and working conditions of the workers.
- To probe into the occupational diseases, health hazards and industrial accidents and to assess the measures taken towards these problems.
- To suggest appropriate policy measures on the basis of findings to raise the socio-economic conditions of the miners.

### **Summary and Findings**

Coal mining is one of the basic industries of India. Economic development of our country depends on the speed and efficiency with which the coal mining sector develops. Orissa is full of important minerals like iron ore, mica, coal, and chromites etc; which are meant for basic and heavy industries. Ib valley coal field, one of the subsidiaries of Mahanadi Coal fields Limited is located at Jharsuguda district of Orissa has 45 percent of total coal reserve in Orissa. There are nine coalmines and projects in this coalfield. The coalmines of the district in the Orissa as well as in the Indian economy enjoy a strategically important position.

The mining works is the principal occupation of the workers as observed in the field. Wages and salaries are their main source of income. We observe two categories of workers i.e. Company Workers and Contract Workers. The company workers are getting higher average monthly income than contract workers.

The present study reveals that the working condition and the work environment are not congenial to the health of the workers. The miners in all mines except for a very few, work under risky, unhealthy and hazardous condition, which gives rise to the industrial fatigue and feeling of frustration among the workers. Due to manual nature of the work labor turnover and absenteeism is more in the industry. It has been proved through the hypothesis that labor turnover has a relationship with the blue-collar job. The jobs are not only manual but also heavy and strenuous. Of the total workers 77% are engaged in heavy and strenuous work whereas only 23% are doing light jobs. It has been shown that heavy and strenuous work in the mines leads to frequent illness, because of which the workers remain absent from duty. 69% of the workers remain absent from duty due to heavy and strenuous work. Remaining 31% remain absent due to participating in religious ceremonies, attending marriages and paying visits to their native places. Working in the mines involves physical accident and blows, muscular and nervous strain, monotony, noise, unhealthy dust and air, which bring down the workers efficiency. Poor

ventilation and foul smell in underground constitute a serious problem. Open cast coalmines also have the same problem, which cause diseases in the respiratory system. Expenditures made by the Coal Company towards the welfare at work place appears scant and inadequate. The condition at work place such as extensive unbearable heat, irritating noise and unhygienic dust tells upon the efficiency of the workers and causes industrial fatigue. However, under such working environment the tribal workers discharge their duty up to the satisfaction and are found to be more efficient, industrious, disciplined than the non-tribal. Often changing the posture of work and rotating the work shift reduces the work efficiency and productivity of the labor. 78% of the workers work standing and often changing conditions and 57% workers attend their job in the rotation shift. Taking psychological factors into consideration it is observed that 84% of workers are dissatisfied with their monotonous and strenuous job.

The present study reveals that the miners suffer from various occupational diseases and accidents due to adverse working conditions. Occupational hazards in coal mining occur due to (1) personal factors like negligence, carelessness etc; and (2) material factors like unguarded and defective machinery, industrial and chemical explosives, defective equipments etc. So in mining industry accidents are not uncommon. Some accidents result in a temporary or permanent disablement of the miners, which is the outcome of irresponsibility of the workers, poor supervision, and poor and inadequate safety measures made available by the company. Safety appliances such as globes, leg guards, goggles, helmets, boots, masks are not adequately supplied. Out of 71% accidents 54% accidents are due to poor safety measures. Climatic condition of the district also causes major accidents in mining area. Serious injuries are more than fatal injuries and minor injuries. Accidents are enormously costly which are both visible and invisible. Economically the cost of the accident is heavy for all concerned. The cost of the compensation payable to the family of the dead miners and injured workers, the cost of the time of the injured men and the cost of the lost time by their employees who stop work out of their curiosity and sympathy are tremendous. Adequate safety measures are essential to recover the loss to some extent.

### **Suggestions**

While conducting survey, certain important factors have drawn our attention, about which we want to offer the following suggestions.

- Wages and salaries are not sufficient to run a decent life, it may be hiked.

- Exploitation of employer be minimized.
- Creation of new employment activities in the periphery.
- Coal dust being the chief cause of air pollution it is suggested to take appropriate abatement measure to control spreading dusts in the mining area. The possible steps are: (a) to take air quality management strategy like setting up air quality monitoring stations in the mining location; (b) adequate plantation of trees around the coal projects so that it will check the wind flow from mining area to the 'basti' area.
- Medical facilities at work place should be provided to all the workers and the workers must be trained in giving first aid.
- Clean drinking water facilities should be provided to all work place as well as to the 'basti' areas. Proper spray of water at a regular interval on the main roads of the mining area for avoiding dust is essential. The safety department should ensure this.
- Informal education and appropriate training etc. should be provided to the illiterate and ignorant miners regarding their environment and working conditions to avoid occupational hazards and diseases.
- Proper display of information on the notice board and display of pamphlets in square places is essential regarding the causes of occupational hazards, awareness camp on safety to maintain consciousness throughout the year. The message of safety policy must be passed on to all levels in letter and spirit.
- The message of health statute '*prevention is better than cure*' should reach each and every worker so that accidents and occupational diseases can be checked to a great extent.
- Last but not the least the government should create ideal industrial environment and good working conditions for the workers in the coalmines, those who produces 'black diamonds' for us which ultimately strengthen the country' economy.