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Impact of mining on socio-economic and health status of indigenous people - A case study of Keonjhar

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ABSTRACT

Odisha is one of the most mineral-rich states of India and there are more than 26 types of minerals available in the state (Directorate of Mines, Govt. of Odisha). The mineral resource base of Odisha is mainly spread in the tribal community dominated pockets and is under forest cover which provides for the livelihood of the tribals. Keonjhar district, which is the home of about 45.4% of tribal population; including some of the most primitive tribes, occupies an important place in the mineral resource map of eastern India. Though mining is very beneficial to the industrial sector and is a positive indicator of economic growth of a country, but its adverse impacts on environment and health related issues can't be denied. Displacement from land and loss of access to forests has a direct impact on the health and nutrition of the people. In this research study the researchers have made an attempt to investigate and study the effects of mining in the livelihood patterns and health related issues faced by the tribal people of selected blocks in Keonjhar district of Odisha. The study reviled the major impact of this change were the depilation in forest resources and agricultural lands, loss of fertility of lands, steady increase of wastelands, shrinkage of grazing fields for domestic animals. As per the health aspect, the cases of Respiratory Tract Infection were significantly high in the surrounding areas of mines along with other health related issues.

Key Words : Mining, Livelihood, Health problems, Tribals, Odisha

INTRODUCTION

Mining, like any other industrial project lead the way for development of infrastructure and generation of market forces. In addition to generation of employment opportunities mining also provides economic boost to the country. Though mining activity in Odisha has played an important role in industrial growth of state, but it has led to drastic change in the environment and social life of the community located nearby. Most of the mineral deposit of the state is home to a sizeable tribal population; who are totally dependent on forests and agriculture for their livelihoods and survival. The takeover of their lands for mining purpose is displacing them from their basic livelihoods, resulting in loss of traditional self-sustainable livelihoods and land holdings and increase in ecological imbalances in the region. Extensive mining activities in areas have destroyed dense forest and fertile agricultural lands, and the indigenous people are now dependent upon the unsustainable

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mining economy by employing themselves as daily wage workers.

Objective:

- To study the socio-demographic profile of the respondents.
- To assess the effects of mining on the livelihood patterns.
- To identify the health related issues face by the tribal people.

METHODOLOGY

Study area:

Keonjhar district is situated along the Northern border of Odisha. Being an explorative study, the aim was to obtain first-hand information about the impact of mining on socio-economic and health issues of the tribal people and Keonjhar was selected for this study because of the concentration of iron ore mines in Banspal, Suakati and Joda block of the district.

Research design:

The study was based on primary data collected from the tribal people residing in Kumundi grama panchayat of Banspal Block. A sample of 140 respondents was purposively selected for the study. A structured questionnaire was developed in keeping view the objectives of the study to assess the socio-economic status, livelihood patterns and health related problems of the respondents. The data has been analysed by suitable statistical methods.

RESULTS AND DISCUSSION

Table 1 depicts the demographic profile of the respondents who fall under different category of social groups, gender, educational qualification, occupation. Table 1 also describes the economic profile of the respondents in terms of monthly income, land status and possession of assets.

Table 2 reflects the effects of mining on the livelihood of the local people.

The villagers used to cultivate cash-crops like bajra, raagi, maize on the slopes of the hills (shifting cultivation). But after commencement of mining activities; loss of fertility of soil, land degradation and surface distortions has made the agricultural lands into waste-lands. Depletion in natural water reserve, washed up mud and other pollutants by rain water from mines into the water streams has made the water unsuitable for farming and household uses. Moreover major change in climatic conditions has also affected the agricultural activities.

Studies undertaken by Mallik and (Das 2004) and Albers *et al.* (2004) reported that NTFP provides around 15% - 50% of household income annually. Mining activities resulted into deforestation of large area of sal trees and gross reduction in availability of NTFP, which was a major source of livelihood of the indigenous people of the area. The discussion with the respondents revealed reduced average household income of the people in comparison to pre-mining period. The depleting forest resource affecting drastically the overall household benefits derived from the forest either in form of NTFP or forest products used as food in daily diet. Similarly, hill slops and other lands prior used for grazing of animals were acquired for mining purpose or dumping area.

These people have traditionally depended on the common property resource basically on forestland for their survival and who come under the forest laws that do not give any right of ownership to the cultivators even after several generations of occupancy and cultivation (Fernandes and Thukral, 1989). Of course mining bring some job opportunities but those being short-term the

dwellers faced difficulties for sustainable employment and earning means.

Table 3 reflects the health related problems faced by the respondents. Prevalence of malaria (62%) and various respiratory problems (56%) were found to be the most common form of health issue.

Table 1 : Socio-demographic profile of the respondents (N =140)

Parameters		%
Social Group		
1.	ST	72%
2.	SC	26%
3.	General and OBC	02%
Gender		
1.	Male	56%
2.	Female	44%
Education		
1.	Illiterate	65%
2.	Under Matriculation	27%
3.	Higher education	08%
Occupation		
1.	Labour	23%
2.	NTFP collectors	35%
3.	Businessman	07%
4.	Mines worker	05%
5.	Farmer	27%
6.	Service	03%
Land status		
1.	Landless	48%
2.	< 1 acre	44%
3.	1-3 acres	08%
Monthly Income		
1.	< 3000	52%
2.	3000 – 5000	23%
3.	5000 – 10000	17%
4.	> 10000	08%
Assets		
1.	< 1000	46%
2.	1000 – 2000	32%
3.	2000 – 10000	20%
4.	> 10000	02%

Table 2 : Effects of mining on the livelihood patterns (N =140)

Factors affecting livelihood	No. of individuals*	% of population affected
Depilation of forest resources	117	83.57%
Steady increase of waste lands	89	63.57%
Shrinkage of grazing field for domestic animals	45	32.14%

*Multiple responses

Table 3: Health related issues face by the respondents

Health related issues	No. of individuals*	% of population affected
Respiratory Infection	79	56.43
Malaria	87	62.14
Waterborne diseases	53	37.86
Eye problems	34	24.28
Skin problems	62	44.28
Joints pain, Arthritis	59	42.14

*Multiple responses

The health hazards and degeneration of the health status of people residing in the nearby areas due to constant exposure to unchecked high level of toxicity in lands, water streams and air was one of the most serious direct and indirect impact of mining (Nandi *et al.,* 2008, Ekosse, 2011, Ramanathan and Subramanian, 2001, Donoghue, 2004 and Agyemang, 2010). People suffered from several forms of respiratory problems, tuberculosis, air and water born diseases, eye problem, joint pain and arthritis etc as a result of prolonged use and contact of dust and pollutants. Mining-related deforestation may have indirectly led to spread of malaria (Pradhan and Patra, 2014).

Conclusion :

There is no denying in the fact that mining plays a significant role in economic development of any country. Though Keonjhar is playing a significant role in fulfilling the domestic and world market demand of iron ore, it has remained as poor as it was previously. Rather, there has been prominent environmental degradation due to depletion of its vast forest, land, water and air pollution affecting adversely the quality of life due to denial of access to food security, natural resources and livelihoods.

The need of the hour is to plan and implement policies ensuring sustainable development through

- Imparting information about sustainable agriculture
- Undertaking of watershed development programme
- Education development
- Providing Vocational training and capacity building training programme
- Prevention of pollution
- Plantation programmes
- Assistance in utilizing government programs

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