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IMPACT OF MINING ACTIVITIES ON THE HEALTH AND NUTRITIONAL STATUS OF LOCAL COMMUNITIES IN TALCHER COALFIELD, ANGUL DISTRICT, ODISHA

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ABSTRACT

Coal mining is one of the most important primary activities of the human civilization, but it has various impacts on the local community. It has mixed impact on society, positive on the economic prospects whereas impact is mostly negative to the environment and health of the local community. Coal mining not only causes pollution borne diseases and communicable diseases but also invite various genetical disorder in the people living vicinity to the coal mining. In this research paper we are doing analysis of various health impacts of coal mining on the local community and we are trying to figure out certain precautionary measures to mitigate the impact of coal mining.

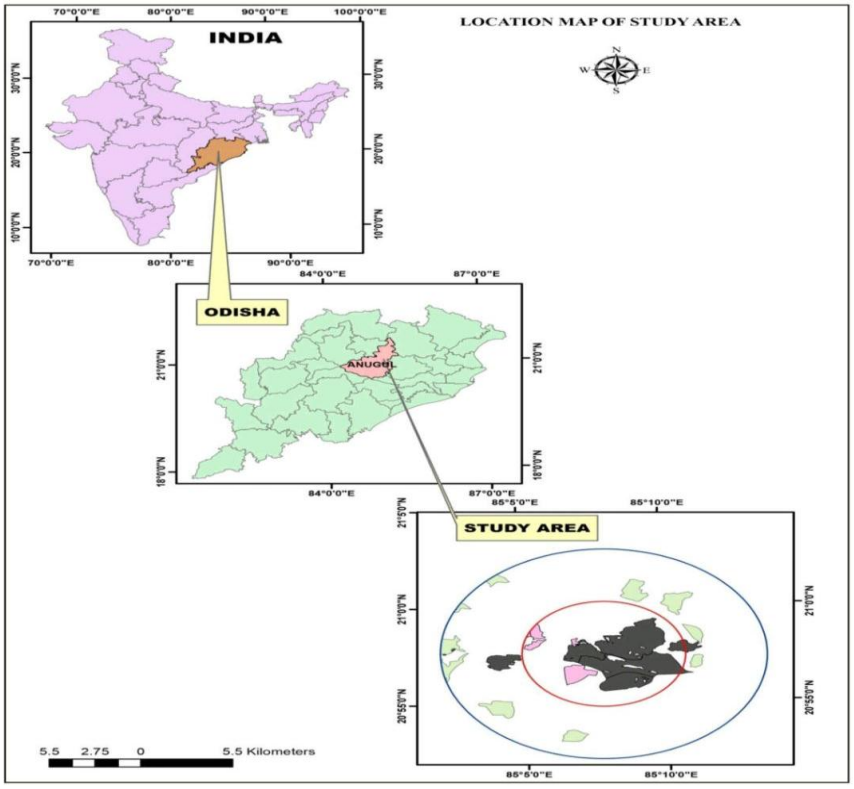
OBJECTIVE

The present study is an attempt to assess the impact of coal mining on health and nutrition of local community of the Talcher coalfield, Angul district, Odisha.

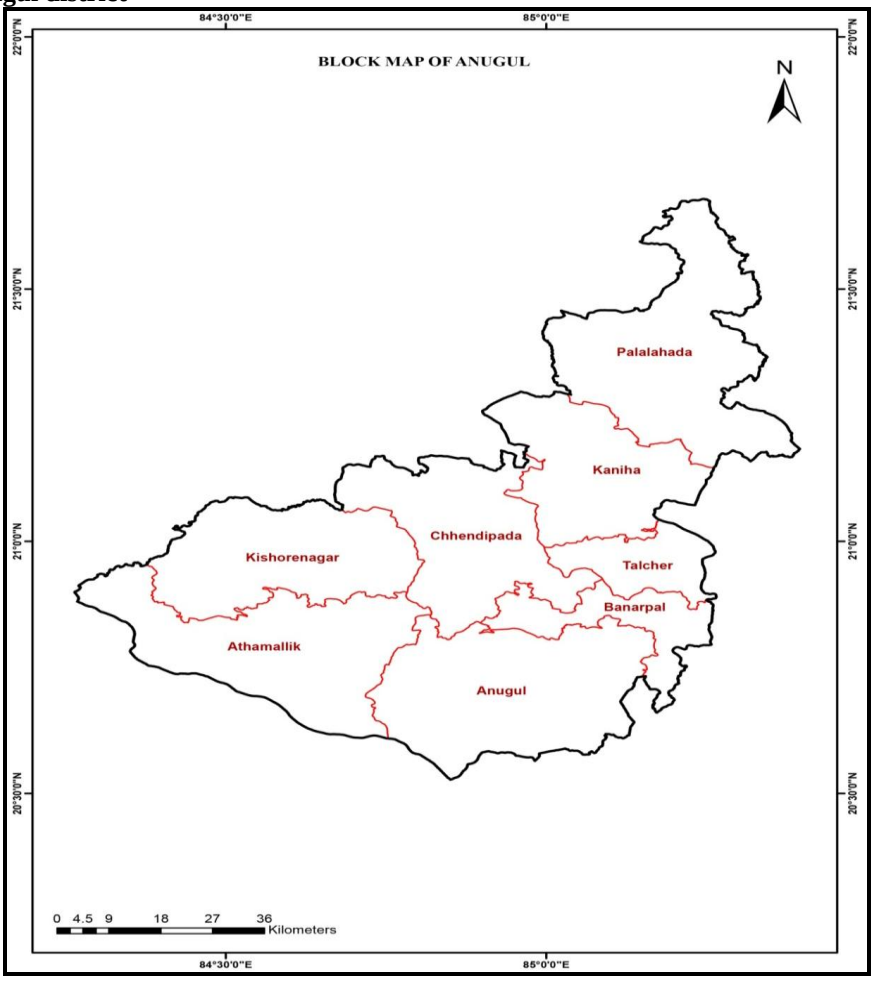
Study area

The study site is a 10km radius area covering the mining agglomeration of Talcher coalfield. It covers the four important coal mining lease area of Talcher coalfield i.e. Ananta, Jagannath, Bharatpur and Balanda. The study area is located in the Brahmani river valley area of Talcher Tahsil. The coal mining project of Talcher coalfield comes under Mahanadi Coalfield Limited. The study area extends from latitude 20.8673 to 21.2548 and longitude 85.0337 to 85.2275 in Angul district of Odisha. It is surrounded by Khandabareni reserve forest at north vast cropland at south Talcher town at east and Hingula II coal mines at west. The site is connected with the near most town i.e. Talcher by both all-weather road and railway. Distance between the study area and nearby town is 07 km. the railway line i.e. Talcher-Sambalpur (east coast railway) pass within 1.0 km of the buffer zone of the study area. The national highways i.e. NH-42, NH-23 pass through 5 km south and 6 km east from the study area respectively. The site comes in a survey of India toposheet no. 73 H/, at about 92mt. lowest elevation and 124mt. highest elevation above the mean sea level.

Location map of study area



Block map of Anugul district



Database and methodology

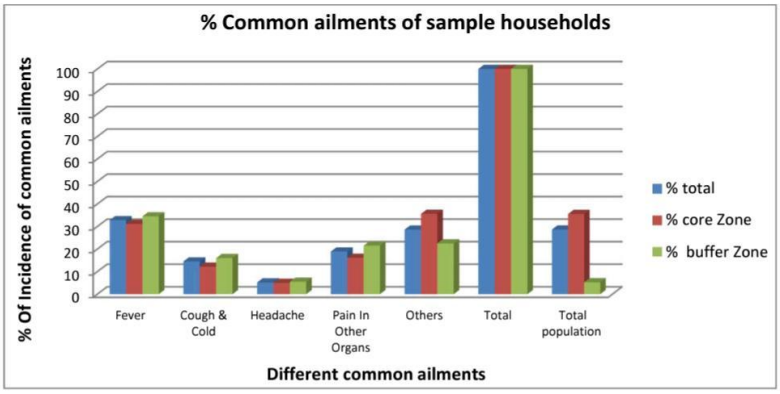
Data for this research work obtained from both the primary and secondary sources. Much of the data required for this research are obtained from primary sources, particularly through survey in the mining area, by questionnaire method, group discussion, sample survey, personal interview and PRA method. The secondary data has been collected from successive census enumeration, mining office, MCL, CIL, OMC, from district commissioner's office, mining office, land and revenue office and different journal books and publications. Village level data i.e. mining affected area is taken from district gazetteer, BDO and Tahsildar office.

Research findings

Health status of the study area

Common diseases of the sample household

Common diseases like fever, cough, cold, headache and pain in other organs are taken into consideration. Not only common diseases but also different types of airborne, waterborne, minesborne and parasitic diseases are taken into consideration. When the household and village survey was conducted, it was noticed that the residents of the study area is suffering from various types of common ailments. Out of the total population surveyed 24.84 % population is suffering from a different type of common disease. The rate of suffering is taken into consideration zone wise. It is slightly higher in the core zone i.e. 26.91% than that of buffer zone i.e. 23.23%. In both the core and buffer zone fever is the highest percentage of disease noticed among the people which is around 30%. After fever the second biggest ailment is other problems. Pain in other organs is the 3rd major problem in the study area after that comes cold and cough. Finally, headaches and migraines come in the last position. The rate of fever is very high in this study area because of unhygienic conditions and mining pollution. Large number of people are suffering from malaria and dengue like fever.

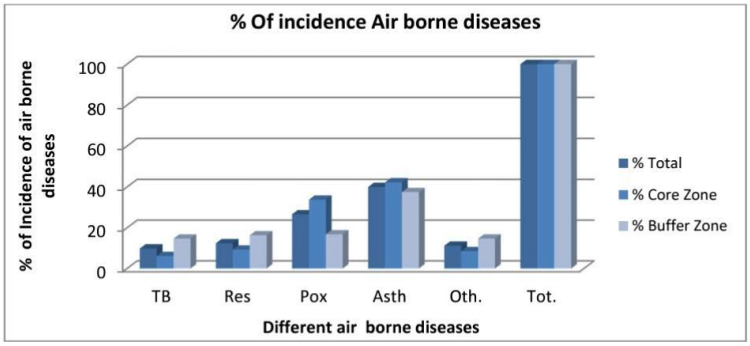


II. Incident of chronic disease among sample household

During the research work in the study area, various types of chronic diseases like airborne, waterborne and parasitic diseases were noticed among the residents.

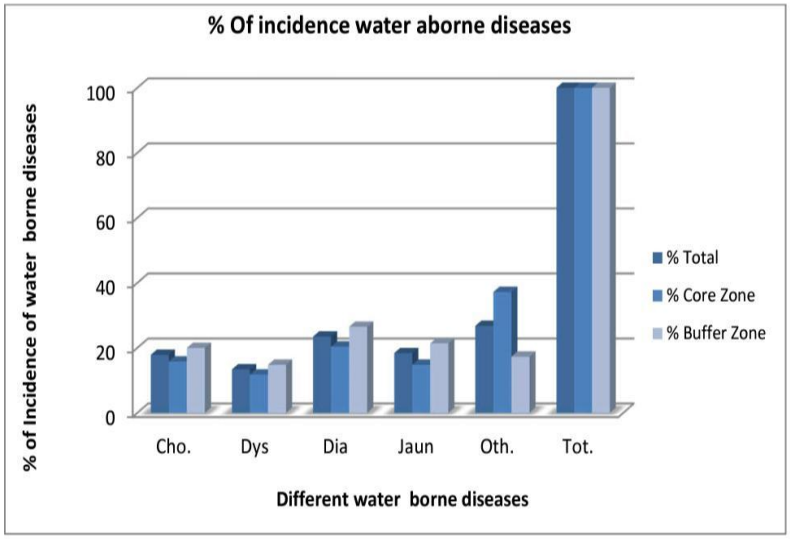
Incident of airborne diseases among sample household

If the airborne diseases are taken into consideration tuberculosis, respiratory diseases, black lung disease, pox, asthma and other airborne diseases are very common in the study area. Out of the total surveyed population 28.43% of people are suffering from it. The rate of this disease is very high in the core zone i.e. 36.62% and it is comparatively less in the buffer zone i.e. 22.06%. Large section of the people in both the core and buffer zone are suffering from asthma and the situation of core zone is alarming in this regard. The condition of pox is very severe in core zone i.e. 33.8%. Tuberculosis and other respiratory disease are also noticed in the household survey in the study area.



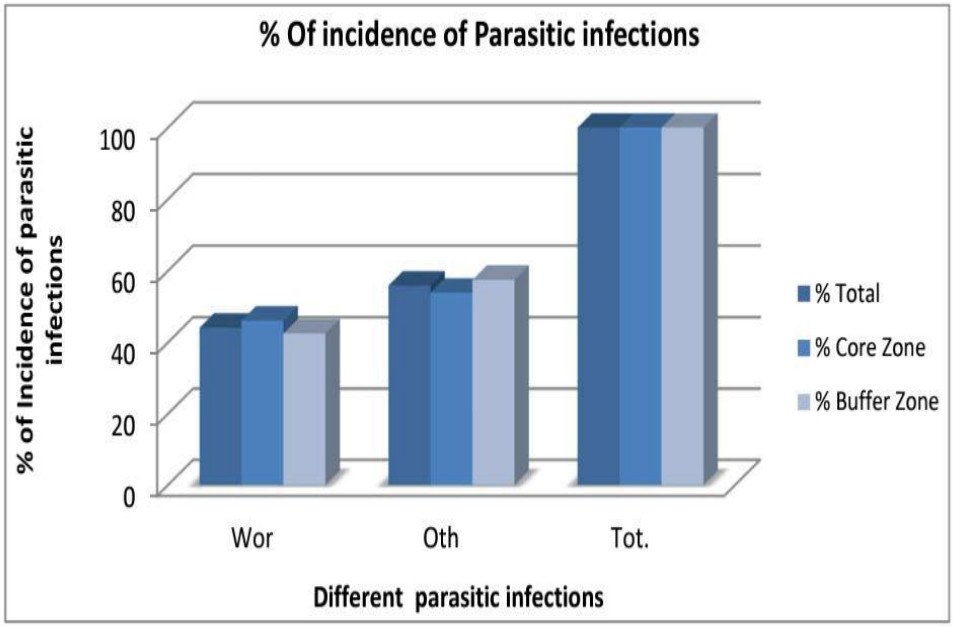
Incident of waterborne diseases among sample household

If waterborne diseases are taken into consideration cholera, diarrhea, dysentery, jaundice and other waterborne diseases are very common in the study area. Due to excessive water pollution, rates of waterborne diseases are very high in the study area.



Out of the total population surveyed in the study area 27.25% of people are suffering from waterborne diseases. The rate of waterborne diseases are very high which is 30.19% in the core zone which is comparatively less i.e. 24.97% in the buffer zone. In the core zone other waterborne diseases are very frequent i.e. 37.2%. Due to lack of clean drinking water and unhygienic practices, the condition of jaundice is at an alarming rate in the buffer zone.

Incident of parasitic infections among sample household

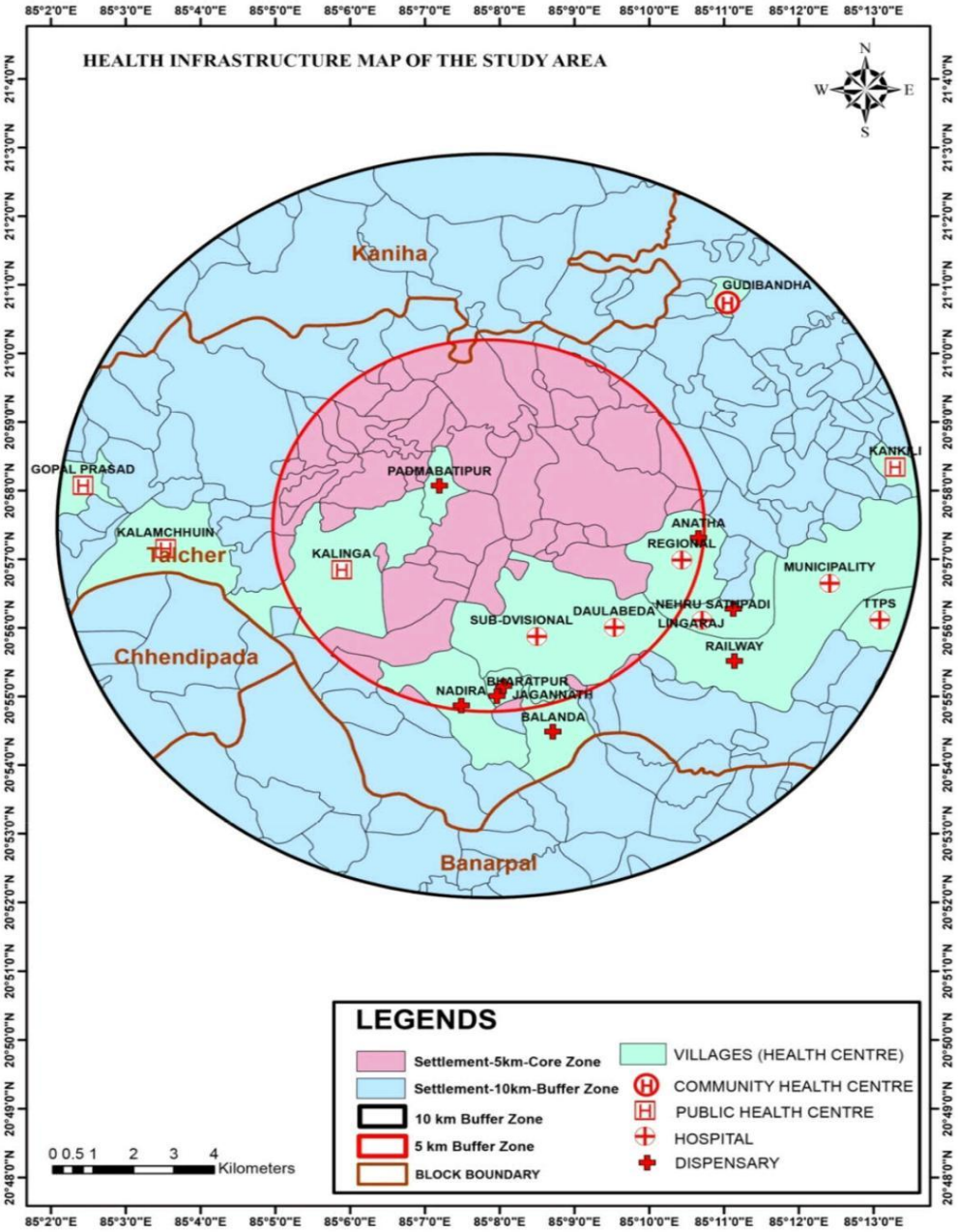


Worm and other parasitic infections are common in the study area. 30.39% of people of the total household surveyed are suffering from it. The rate of infection is high in the core zone and comparatively less in the buffer zone i.e. 31.83% and 29.26% respectively. The rate of infection is more frequent in children than that of an adult.

Nutritional status of the study area

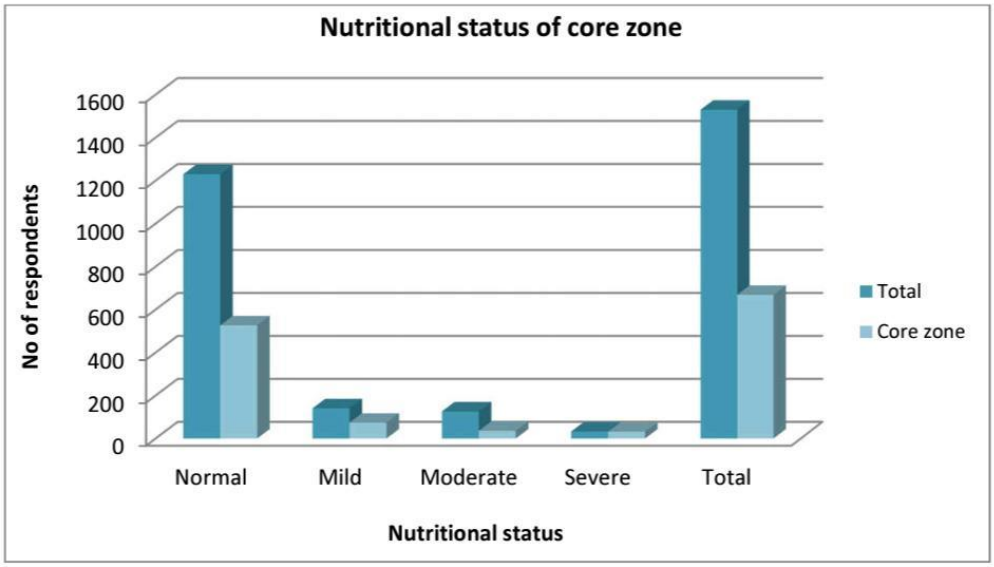
Nutrition is the building block of health condition. The nutritional status of the study area is calculated by the

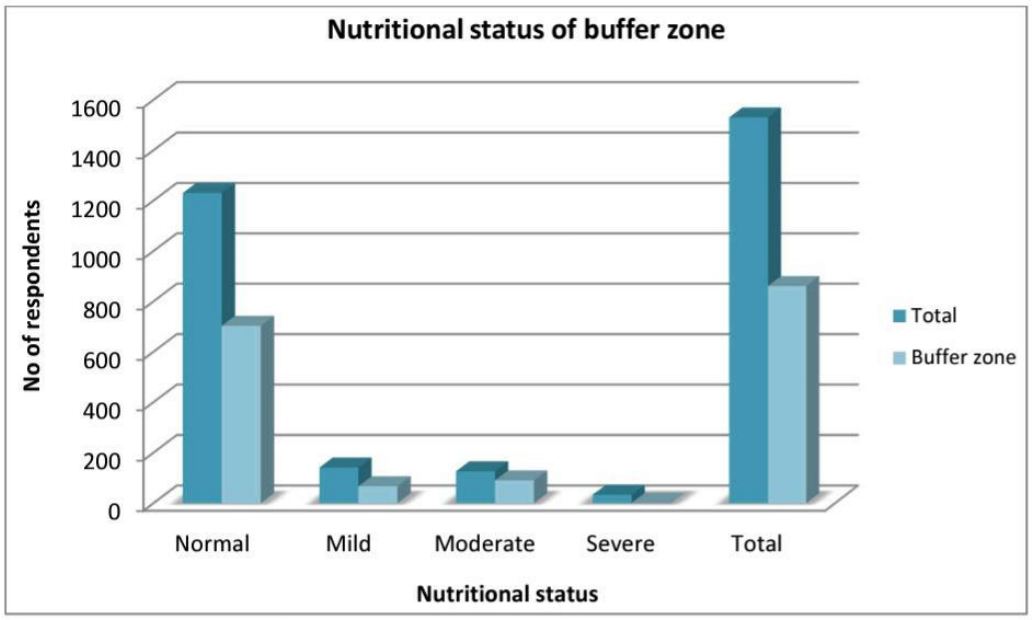
anthropometrical study. The anthropometric study calculates the malnourishment level and gives an idea about the nutrition status of the study area. It analyzes the weight and height measurement of each member of the sample households.



Assessment of nutritional status

Weight and height are most frequently recorded in the nutritional surveys. In the nutritional study total of 1530 people living around the mining area of different sampling villages are taken into consideration. It was noticed that 80.39% of the population has normal nutritional status, 9.28% belonging to mild condition, 8.23% have moderate status whereas only 2.15% population are under severe condition. Based on the average nutritional score achieved by different sample villages it was found that Dasrathipur, Telipasi, Solada, Badajharan, Badahar, Hariharpur, Rayati, Gopalprasad scored more than 80%, Brajanathapur, Mallibandha, Khirkolipasi, Madanmohanpur, Bhajanipur, Jamubahali scored between 60-80% and rest only one village i.e. Chandrasekharpur <60%. This village requires prompt medication to meet their nourishing necessities through mindful battle and preparation. The commonness of the higher extent of typical youngsters in practically all villages may be ascribed to the longer length of bosom sustaining in the area.





Zone wise if the variation is taken into consideration, the buffer zone is comparatively better than the core zone. In the core zone nutritional status of 78.77% people are normal, 11.06% comes under mild condition, 5.38% under moderate condition and 4.78% under severe condition. On the contrary, in the buffer zone 81.65% people are normal, 7.78% under mild condition, 10.45% moderate and 0.12% under severe condition. These nutritional statistics reflect core zone nutrition needs to be taken proper care.

Health problems

There is hardly any regards for cleanliness and sanitation facility. Neither proper solid waste disposal nor drainage facility is available in the study area. Due to excess domestic and mining pollution this area is prone to vector-borne diseases like dengue, malaria, fever, cough, cold etc. Most of the mining borne diseases are frequent in the mining belt like acute respiratory tract infection, skin infection, intestinal disorder, arthritis, joint pain and eye diseases, asthma and lung diseases etc.

The medical facility is also poor in remote villages, people have to move 10-15 km to avail medical service. In most of the dispensaries and PHC there are no MBBS doctors. Specialists and MBBS doctors are available only in Talcher municipality sub-divisional or central hospital. For any severe case, people have to move to Cuttack, Bhubaneswar which is around 180 km from the study area.

Concluding remarks

Development of health infrastructure is most important for improving the health status of local community. Another important thing is improving the nutritional value of the local community. Health impacts of mining can't be eradicated completely but the impacts can be

lessened by using scientific mining, sustainable mining or green mining methods.

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