

ADVERSE HEALTH IMPACTS OF MINING ACTIVITIES

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Potential human health risks occur at most stages of mining life cycle, from exploration through to mine closure, and may result from both surface and subsurface mines, large and small-scale mining operations, whether located in remote locations or adjacent to towns, in pristine or degraded environments, and at all climatic zones and geomorphologically diverse areas. The mining sector comprises different activities including exploration, extraction, beneficiation e.g., crushing, screening, washing, and flotation. Other mining activities include the use of explosives, the use of chemicals, waste disposal, and Traffic of heavy equipments. It is now well documented that those mining activities have proven to have significant health impacts on the mine workers and adverse environmental impacts on the surrounding environment. The health of miners can be significantly deteriorated because of the long term and systematic exposure, ingestion, inhalation, and skin direct contact with toxic heavy metals, radionuclides, acidic drainage, and toxic chemicals e.g. cyanide, mercury or other toxic materials. Inhalation of dust and air particulate matters (PM10) are among the significant pathways into the human body of carcinogenic pollutants such as asbestos fine fibers. Asbestos and coal mining are among the activities that have produced mining related diseases such as pneumoconiosis including Asbestosis, Pleural plaques, Malignant mesothelioma, Black lung, and Anthracosis. Other mining related diseases include, Silicosis, Dental and Skeletal Fluorosis, Talcosis. Hyperpigmentation, Keratosis, and skin cancer are common diseases related to chronic arsenic exposure. Chronic health impacts can also result from other processes that are related to the mining activities such as soil and water pollution, due to the migration of contaminants from the site through the physical dispersion of particles by erosion and weathering, or from chemical dispersion such as acid rock drainage or leachate from mine wastes and tailings. Exposure to heat, noise and vibration can also impose adverse health impacts. Thus the range of mining impacts on miners health can be permanent and, in some cases, lead to fatalities. Unless proper measures and best available technologies and best environmental practices are applied to mitigate the possible health effects caused by mining activities, the health risk situations might extend far beyond the boundaries of the mine site.

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