ABSTRACT

Mining is one of the high risk associated occupations of the world, and these risks cause serious problems and can lead to different kinds of accidents such as injuries, disabilities and fatalities. Safety measures are not only important to reduce any kind of incident in the field of mining, but also the basic and legal requirement by the law. Two methods are of coal extraction one is open pit mining and other is underground mining. Underground mining method is more risky and dangerous in terms of roof fall, stone fall, side fall, hoisting, lack of oxygen and other poisonous gasses, because of these factors accidents occur frequently, and more safety measures are being required to avoid those incidents.

This research aimed to assess the safety measures implemented in underground coal mines of Lakhra Coal field, Jamshoro, Sindh, Pakistan, in accordance with Safe Performance Index (SPI). 30 mines were selected as sample by random sampling method to measure in terms of SPI. Data was collected from mine workers, mine management and the inspectorate of mines Govt. of Sindh. SPI is a tool developed by the American scholars which combines all the accidents and the citations by the inspectorate of mines. Its values range from 0 to 100, only one mine out of thirty mines having value more than 90 can be said as safe mine. It also finds the frequency and nature of accidents in mines; 25 fatal accidents were happened because of roof fall, 8 because of side fall, 8 stone falls, 11 suffocation and 5 fatal accidents happened because of gas fires. Risk assessment matrix was developed on the basis of risk factors, roof fall hazard was found common and most sever among all hazards. These fatalities could be reduced and hazards may be eliminated by using standardized approach to mine construction and providing proper shafts and vents for escape of toxic gases. Providing trainings and PPEs to workers and staff, proper and timely inspection of mines, Government should ban and close all those mining companies who are not meeting the safety measures and should take legal action against them. Furthermore, all these incidences could have been prevented had proper systems been implemented.

Key words: Mining, Risk, Risk Assessment Matrix, SPI, Severity, Lakhra .