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Chinese coal mines — The industrial death trap

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China is not only the largest coal producing and coal consuming country in the twenty first century; it is also the second largest coal exporter in the world. As China's industrial revolution has brought about spectacular economic growth, its safety and health records are soaring in an opposite direction.

China has the unique repertoire of mines from industrial growth standpoint. It comprises of completely un-mechanized small village pits; bigger scale industrialized township and village enterprises (TVE mines) with large human workforce, and the large state owned enterprises (SOE), where machines take over many dangerous tasks from labourers.¹

It is estimated that coal mining accounts for less than 4% of the Chinese work force, however the fatalities from coal mining injuries are the single most important occupational hazard in China, responsible for about 45% of industrial fatalities. Annual work place fatality rate in China is 11.1 per 100,000 workers compared to the rate of 2.19 per 100,000 in US. In 2001, 9,650 fatal industrial accidents occurred, killing 11,047 workers, 5,670 of whom were coal miners.² In 2006, the coal mining "accidents" claimed the lives of 4,746 mine workers, roughly at an average of 13/day.³ These fatalities were eleven times higher than in Russia, and 15 times higher than in India.

Most miners are typically transient workers from the poorest parts of China, who have no other means of livelihood than working on the deadliest jobs in the country. The rural industry where the major Chinese labour force is employed is known to pay low wages in poor conditions. It is widely accepted that most of the serious incidents and injuries go unreported in official records, miners are forced to sign a waiver of legal claims and the issue is settled for a small amount of compensation money in the event of any injuries (fatal or non fatal) on the job.²

About 74% of serious fatal incidents in mining enterprises occurred in the private sector, located in Northern and Western China. A close review of recent coal mine catastrophes reveals that big disasters often occurred in small business where workplace safety and hazard prevention is sacrificed to cut the costs and maximize profits. Accidents causing fatalities are mainly roof falls, transport and explosions, and less commonly flooding of a mine. Large numbers of workers are employed in un-mechanized and unregulated environment of TVE, where

gas explosions have continued to be a regular cause of mining disasters, responsible for 71-83% of total fatalities. Roof falls are another important cause of coal mining fatal incidents which accounts for 16-28% of total fatalities. Transport accidents are more of a problem of large mines, responsible for 15% of deaths in this setting, as compared to 5% of deaths in TVE's.¹

It is important to note that fatality rates from mining injuries are only one aspect of the whole picture of the total burden. It is estimated that overall life expectancy of coal miners is significantly lower than the other miners, which is 59 years for surface workers and 49 years for underground workers if they start working at the age of 15 years. The five years mortality and disability data from Hunan province showed a high figure of mortality and disability in coal mine workers.⁴ According to this report, through 1980-1984 Standardized mortality rates (SMR) of underground miners were reaching 149.8/100,000 with a disability rate of 39/1000 miners as compared to surface miners, who had an SMR of 41.2/100,000. It is important to note that mining accidents were the most common cause of both death and disability in this study, causing 55% of deaths in underground and 16% of deaths in surface workers.

To highlight the plight of miners in China, another study by Baker et al, addressed the importance age related causes of death in tin miners and it was found out that injuries were the leading cause of death in miners less than 50 years of age and 4th leading cause of death above 50 years of age.⁵ It was also estimated in this study that injuries were the number one cause of potentially productive years of life (PPYL) lost before the age of 65 and caused 1600/100,000 PPYL lost; this is four times the injury burden of UK miners.

This was a brief overview of burden of injury in Chinese Coal miners in terms of mortality and morbidity. The horrific figures of injury related deaths and the setup of these enterprises not only emphasize the importance of an early intervention, but also gives an insight of the potential areas of intervention in industrial health and safety rules and regulations, policy making and implementation of strict labor laws and penalties.

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