

## Eliminating Injury in the Work Place and Realizing Vision Zero Using Accident Investigation and Analysis as Method: A Case Study

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**Abstract :** Accident investigation and analysis are useful to identify deficiencies in plant, process, and management practices and formulate preventive strategies for injury elimination. In India and other parts of the world, industrial accidents are investigated to know the causes and also to fulfill legal compliances. However, findings of investigation are seldom used appropriately to strengthen Occupational Safety and Health (OSH) in expected lines. The mineral rich state of Odisha in eastern coast of India; known as a hub for Iron and Steel industries, witnessed frequent accidents during 2005-2009. This article based on study of 982 fatal 'factory-accidents' occurred in Odisha during the period 2001-2016, discusses the 'turnaround-story' resulting in reduction of fatal accident from 122 in 2009 to 45 in 2016. This paper examines various factors causing incidents; accident pattern in steel and chemical sector; role of climate and harsh weather conditions on accident causation. Software such as R, SQL, MS-Excel and Tableau were used for analysis of data. It is found that maximum fatality is caused due to 'fall from height' (24%); steel industries are relatively more accident prone; harsh weather conditions of summer increase chances of accident by 20%. Further, the study suggests that enforcement of partial work-restriction around lunch time during peak summer, screening and training of employees reduce accidents due to fall from height. The study indicates that learning from accident investigation and analysis can be used as a method to reduce work related accidents in the journey towards 'Vision Zero'.

**Keywords :** accident investigation and analysis, fatal accidents in India, fall from height, vision zero

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