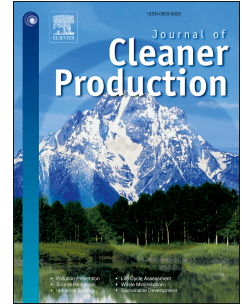


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The Dynamics of Proximal and Distal Factors in Construction Site Water Pollution

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Abstract

Construction site water pollution causes irreversible damages to the surrounding environment with additional cost, time and resources required for rectification works. Construction teams are often blamed for causing site water pollution. Little thought has been given to recognize the underlying reasons for the undesirable actions, particularly the distal factors. In construction, safety and accident research has provided a strong theoretical background that focused on distal factors. Therefore, this study aims to use the basis of accident causation model to identify the distal and proximal factors for site water pollution that will be represented using the Causal Loop Diagram. The use of Causal Loop Diagram establishes a new scientific approach towards portraying the dynamic interaction between the distal and proximal factors for site water pollution, further narrowing down the factors to be enhanced or controlled. This study has employed three different methods (in-depth interview, systematic review and case study) to identify the potential distal and proximal factors. Findings from the study suggest that the root cause for site water pollution lies on the distal factor that stems from funding. From a dynamic perspective, positive improvements made on funding could reduce the negative effects on the ensuing factors. In summary, distal factors have a domino effect on the proximal factors where the dynamic interaction between them could ultimately increase the risk of site water pollution. The outcome of this study would be a transparent and holistic perspective on the underlying causes of site water pollution that embraces the concept of pollution prevention.

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