

A Review Paper on Investigation of Risk Assessment in Construction Project - Hilly Terrain

N.Manigandan¹, C.F.Jerin², A.Rajesh kumar³

¹Student M.E. (CEM), Civil Engineering Department, Sri Ramakrishna Institute of Technology/Anna University, Coimbatore, Tamilnadu, India

²Assistant Professor, Civil Engineering Department, Sri Ramakrishna Institute of Technology/Anna University, Coimbatore, Tamilnadu, India

³Student M.E. (CEM), Civil Engineering Department, Sri Ramakrishna Institute of Technology/Anna University, Coimbatore, Tamilnadu, India

Abstract - This study mainly discusses the critical risk factors and its assessment techniques through comparative study of various international construction projects. About 15 relevant articles published over the last 25 years have been reviewed. Such risk assessments help to include in the budget and scheduling for the successful completion of the project in correct manner.

Key Words: Risk, Hilly Terrain, Construction, Certainty, Uncertainty

1. INTRODUCTION

This Risk is an uncertain event or condition that, if it occurs, has a positive or a negative effect on a project objective Risk Management is the systematic process of identifying, analyzing, and responding to project risk. The purpose of this paper is to review and bring various experts precautions discussions about risk factors in construction.

2. A LITERATURE REVIEW IS BASED ON RISK ASSESMENT IN HILLY TERRAIN

Evaluating risk in construction-schedule model(ERIC-S): construction schedule model ,Daud nasir, et.al(October 2003) The determination of the lower and upper activity duration for schedule risk analysis by program evaluation and review techniq (or) M.urte carlo simulation. as first step from literature review risk factor is collected and also from esyert review secondly cause effects relationship among these risk was identified from expert interview survey probabilities for various combinations of parent for each risk variable were obtained. Finally sensitivity analysis is used for 13 various project were earliest, expected and latest time where monto carlo simulation is done, in order words, the ERIES model simulation was able to predict the completion data with in the range. The model was validated with historical data from 17 case studies with very good result.

Protocol to enhance probability by managing risk in construction project, Yoojing yoon, et.al(2014) To

enhance the construction company profitability, risk must be controlled as a part of their long term business planning. The protocol consist two phases. In phase 1- Risk identification, analysis at project level phase 2- development of risk handling strategies to risk at the company level. By evaluating the effectiveness of the relationship among cast, centers, profit centers and external company nlevel. In risk handling methods four response strategies , risk avoidance, transfer, mitigation and retention. Annual profit of WAPI's is dependant on company and market condition. Positive risk events which results in profit gains, into the development of RHM will enable construction companies establish risk management strategies.

Risk assessment methodology for underground construction project, Hyun -ho choi; HYO-NAM Cho et.al(April 2004) This paper mainly focused on to DEVELOPED TO ACCESS and manage the risk in underground construction project based on fuzzy set analysis identifying, analyzing, evaluating and managing risk. The total risk amount surprisingly about 5% of total project cast. For other types construction project the proposed methodology may apply with slite modification. They stated risk analysis software based on some various experts subject judgement (or) parameter estimated depends on risk related data.

Modification Of Advanced Programmatic Risk Analysis And Management Model For The Whole Project Life Cycle Risk, Mehron zeynalion; bambang trigunasyah, at.al(2013 January) This paper proposed a modified APRAM that consider potential risk of the project that might occur over the projects whole lifecycle effective decision making tool is modified model for construction managers from observerd result cost of a coid- formed steel structural system is slight higher than conventional system. Experts estimated risk by Delphi method. APRAM model can help construction managers make a better decision in selecting the most optimum option.

Methodology Of Risk And Uncertainty Management In Constructions Thechnologies And Economical Problems, Darius migilinskas; leonas ustinovicity, et.al(2008) The uncertainty and risk are related threads associatd with source. The clarification of problems source planning of "what if" solution in site. Consequences are combined to fine

groups computer aided design system and wide simulation for project implementation . where game theory and decision making are used to overcome the uncertainty conditios.

Identification Of Risk Management System In Construction Industry In Pakistan, Rafiq M.Chandhry; Khurram Lqbal(JAN- 2013) This survey based on risk management in construction industry Pakistan. To find important of risk , current management techniq and barrier, current management. Empirical study reports of questionqire survey, interview and literature review the risk are analysed by mean and ranking. Results provide an opportunity for planners , project managers and other key stock of their future project.

Understanding And Improving Your Risk Management Capability; Assessment Model For Construction Organization, Patrisk X.W.ZOU; ying chen; et.al.(august-2010) The aim of this paper to develop a risk management maturity model with fine attribute namely management, risk culture identity risk, ability to analysis risk and application of standardization management system ,four different maturity level used to measure risk, two test of maturity level carried out with construction constructors and management organization, based on the research finding it could claim rm3 was user friendly, comprehensive, practical and useful for construction organization.

Using Risk Analysis To Determine Construction Project Contingencies, Stephen Mak; David Picken et,al(April 2000) Estimating using risk analysis (ERA) is a methodology that can be used to substantiate the contingency by identifying uncertainties and estimating their financial implications. This paper presents results of a survey that compares a total of 287 non-ERA and 45 ERA projects. The results show a highly significant difference in variation and consistency between these groups The samples in this study revealed significant improvement in project estimates as the mean and variance of ERA projects are consistently smaller than those of non-ERA projects. Further research should be carried out to increase the sample size, particularly that of ERA projects.

Identifying Key Risks in Construction Projects: Life Cycle and Stakeholder Perspectives, Dr Patrick. X.W. Zou1; Dr Guomin Zhang et,al This paper aims to identify and analyse the risks associated with the development of construction Projects from project stakeholder and life cycle perspectives. this risk management project factors are selected form review of literature and questionnaire survey and a statistical analysis of the survey data by ranking top 10 and graphical representation and fish-bone diagram.

Classifying Key Risk Factors In Construction Projects - Pejman Rezakhani; et.al(March 30, 2012) This paper is an investigation of different risks which may be involved in construction projects. Project management functions which have the most effect on risk management plan are categorized and an analysis of key risk factors in every category is described. Finally a hierarchical risk classification to cover all the effective key risk factors in construction

projects is suggested. Case studies have shown that by utilizing proposed hierarchical risk breakdown, most of the risks in regular and complex projects.

Need and Urgency of Landslide Risk Planning for Nilgiri District,Tamil Nadu State, G.P.Ganapathy; K.Mahendran (2010) The present paper provide information that leads to the reduction of losses from landslides and increase public safety through improved understanding of landslide hazards requires the rocks are deeply weathered and the soil thickness is found to be upto 40m with lithomarge , A (LHRM) landslide hazard assessment, which is commonly in the form of a map, provides people with a practical and cost effective way to recognise areas where landslides The Conclusion approach is to avoid further development in high risk landslide areas.

Landslide Hazard Mitigation in the Nilgiris District, India – Environmental and Societal Issues , G. P. Ganapathy; C. L. Hada (October 2012) The present study can be useful information to the environmental scientists, planners and policy makers in landslide hazard mitigation practices in the Nilgiri district. Strengthening of buildings and infrastructure should lead to reduction in Vulnerability; bioengineering structures cannot stabilize directly but can contribute indirectly to civil engineering structures by protecting the soil surface The Soil bio engineering provides improved landscape and habitat values. it is advised a detailed site specific study should be carried out before implementing this technique.

A Review On Critical Risk Factors In The Life Cycle Of Construction Projects, S.M. Renuka , C.Umarani , et.al.(2014). The Critical Factors identified by many researches done in different type of projects like Residential, Industrial, Commercial, Infrastructure and etc, in various countries like (USA, UK, Australia, China, Hong kong Korea, Turkey, Mexico Thailand & etcThe most of Researches have done the risk assessment model in AHP , MCS , LR .The proposed model carried out using these three Techniques have showed good result in Risk Analysis of Construction Projects. Among this different model AHP is more Effective because of its Systematic Approach to structuring risk assessment problems.

Critical Factors Influencing to Management Risk in Construction Projects, V.Sathishkumar; P.N.Ragunath et.al(31 January 2015). The objective of this study is to identify the risks that are caused in various construction projects and calculating the risks severity to personal and property. Thorough literature review factors are collected The questionnaire prepared for the pilot survey was formulated based on the relevant literatures in the area of construction risk management. The data were analyzed by Descriptive Statistics and ANOVA , both Descriptive analysis (Mean, Standard Deviation), Differential analysis (t-test and ANOVA) test as been done all the aspects before making change in top management will clear the negative impact in work progress of construction.

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