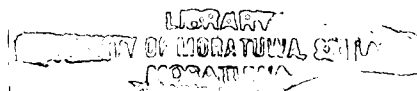


Impact of Contract Documents on Quality Management aspects

IN BUILDING CONSTRUCTION INDUSTRY OF SRI LANKA

By

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Degree of Master of Science

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Declaration

This thesis is a report on the research work carried out in the Department of Civil Engineering, University of Moratuwa, Sri Lanka, during March 2002 to June 2003. This submission is original and does not have any materials previously published or written by any others anywhere, except where citing is made.

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Abstract

Unlike other economic sectors, the construction industry is characterized by which are discontinues, dispersed, diverse and distinct. Therefore, improvement of quality in construction works is comparably difficult as in other industries such as manufacturing, agriculture etc. The previous studies show various factors, which affect the achievement of construction quality. These factors significantly contribute to increase the failure cost. Studies on 'cost of quality' revealed that by spending a little on prevention costs such as practicing ISO 9000 quality systems would save a higher percentage of the failure costs. It is obvious that as ISO 9000 quality system provide generic core values for quality improvements, it would be possible to grasp guidelines from ISO 9000 quality system, to minimize the effect of the factors affecting construction quality.

The study presented in this report identifies the factors affecting the construction quality, and the impact of contract document on quality management aspects in the Building Construction Industry of Sri Lanka, based on the ISO 9000 quality standard requirements. The objectives of this research were 1) to investigate the significant factors affecting construction quality in Sri Lanka, 2) to investigate the adequacy of ICTAD Specifications used in Building Construction works to assure the Quality of the works, 3) to investigate the extent of Quality Management aspects covered in ICTAD Conditions of Contract, 4) to identify necessary changes for improving Contract Documents to assure Quality of Building Construction works.

The study revealed that, According to the local contractors, there are six factors that significantly affect construction quality; three of them are market related and the rest are related to the culture, management and quality system of the organization. They are 'Low quality of materials', 'Incorrect construction methods', 'Lack of site supervision', 'Lack of Commitment and Capability of site Staff', 'Lack of skilled Labour', 'Incompetent Subcontractors'. The investigation in Contract Documents; ICTAD Specifications and Conditions of Contract revealed that, the adequacy of quality aspects in both of them is not sufficient to influence the Building Construction Industry of Sri Lanka as far as the quality development is concerned. Possible necessary changes have been provided to improve them and recommendations have been made for further studies.

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