ABSTRACT

This study examines the current state of quality management practice in the local construction industry and highlights its existing and potential problems as well as the apparent opportunities that good quality management practice is able to provide. Of the 4 levels of quality management currently distinguished, Total Quality Management (TQM) is established as the highest attainable ideal to strive for, as it recognises that total quality is only achievable through the concerted and continuous effort of all the parties involved.

Benefits and opportunities from quality management include better quality and valuable cost and time savings as well as various non-tangibles such as improved image, better reputation and staff morale and higher productivity.

Obstacles and prerequisites of quality construction are also considered. Strong reliance on foreign workers, the kepala system, the continued use of labour intensive construction methods and often unrealistic completion time, are established as some of the factors affecting the achievement of quality.

To achieve quality, the role of government and professional bodies are known to be of vital importance. Among the more prominent government schemes to provide quality are ISO 9000 and CONQUAS.

Quality in the design stage is an important prerequisite for Quality Construction. Based on research in other countries 50% of the quality failures was found to originate from the design
stage\(^1\). Considering this severity, several problems in the design process were identified and suggested solutions outlined. Poor detailing, inadequate consideration for buildability, standardization and prefabrication are seen as important causes of quality failures in construction. Design and build forms of procurement and better training of future architects and engineers to equip them with an essential understanding and better awareness of buildability and construction requirements would offer possible improvements.

The construction process for which the contractor is the responsible party is considered more complex than the design or manufacturing process. It involves numerous parties and activities with extensive coordination of deliveries and services and large scale procurements. To examine the current status of quality management among contractors operating locally, a survey was conducted. The findings indicate that those with a quality management system have achieved positive results in terms of quality improvements and cost savings.

To substantiate the findings of the survey a case study was carried out of specific elements of building construction. Based on indications from the contractors' Quality Management Unit, the use of metal formwork was examined for its impact on quality, cost and time implications. The study showed that higher initial costs compared with timber formwork were off-set by reduction of failures and failure cost and faster construction.

Therefore, based on both the survey results and the case study, there appears to be enough evidence to suggest that quality management and expenditure on quality construction pays off in terms of better quality and cost and time savings.

\(^1\) The Building Research Establishment (BRE) found that 50% of errors in buildings had their origin in the design stage and 40% in the construction stage - BRE (1981) "Quality Control on Building Sites". HMSO