Summary

The Main Upgrading Programme (MUP) implemented by HDB is a bold exercise to transform the old housing estates into quality housing estates. As the construction works are carried out in a lived-in environment with lessees bearing part of the construction cost, these pose immense challenges on the close co-operation with the residents and amongst construction professionals. HDB's initiated the total quality housing approaches, including the implementation of large-scale main upgrading programmes, which won the Singapore Quality Award (SQA) in 1997, an award signifying the pinnacle achievement of quality. The MUP has since gained popularity amongst Singaporeans.

This dissertation contemplates TQM, a total company-wide effort through full involvement of the entire workforce and a focus on continuous improvement to achieve customer satisfaction, as the key to the successful implementation of MUP. Using the framework of the SQA criteria, the quality systems for the implementation of MUP are examined in detail under the areas of Leadership and Quality Culture, Management of Process Quality, Human Resource Development and Management, Strategic Quality Planning, Use of Information and Analysis, Customer Focus and Satisfaction and Quality and Operational Results.
The study concluded the adoption of TQM in the implementation of MUP. There exist a strong quality leadership through management by example and active involvement of quality programmes with senior management chairing the quality improvement committees and Upgrading Steering Committee. Driven by the corporate quality culture, "customer satisfaction focus" processes coupled with the effective use of information and IT are achieved through active staff participation and teamwork to enhance quality products and services.

A total effort includes at the onset, strategic phase implementation and design packages that incorporates customer needs and feedback through survey and polling. Effective cost management and control measures are installed to ensure proper utilisation of funds. There is also effective application of technology in design, careful selection of work method, tools and equipment, proper scheduling of work programme aimed at minimising disturbance to residents and completing the work quickly, safely and efficiently. Facilities such as temporary toilets, study and rest area are provided for the resident's convenience during the upgrading work. Comprehensive communication channels are also established for effective communication of information and customer's feedback and complaints.
Areas for continuous improvement were identified by the author within the TQM framework adopted. These include benchmarking for construction workmanship, use of performance specification to enhance contractor's quality and development of maintainability score to evaluate design. Quality indicators for performance measurement and certification of all key functions to ISO or internal standards are recommended to improve process quality.

The TQM approach involving the entire workforce and close working relationship with its suppliers has achieved win/win benefits. There is wide acceptance of the MUP as witnessed from the favourable voting results and call for acceleration in the programme. Internally, the organisation also gains in the pool of highly motivated staff who strive for continuous improvement in the delivery of quality product and services.