SUMMARY

This dissertation examines the types, extent, causes and effective repair methods of the common defects in HDB flats. It also recommends measures to prevent occurrence of such defects in new flats and to prevent them from deteriorating into serious problem in existing flats. Results of the surveys and comments from relevant personnel through field interviews were conducted and presented.

It is concluded that the common defects found in HDB flats are ceiling leak, spalling concrete and external wall seepage. These defects are found more prevalent in the older HDB flats and flats built during the accelerated building programme between the year 1983 to 1986. The causes for occurrence of these defects in general, are due to fair wear and tear of materials, old detailing method of building elements which were found to be inadequate, poor workmanship during construction stage and neglect of maintenance.

Ceiling leak and external wall seepage problem are also found in prefabricated flats (building joints) constructed during the accelerated building programme because of workmanship problem during the construction. Spalling concrete, on the other hand was found to be non-existence or less in prefabricated flats because of better grade of concrete used and better quality control on concrete cover in factories producing prefabricated components.
Ceiling leak and spalling concrete problem are found to have higher occurrences in toilet and bathroom areas of smaller flat types such as 3-room as compared to bigger flat types such as the Executive flat. This phenomenon could be due to the higher occupancy and thus higher usage in smaller flat types as compared to bigger flat types.

Effective methods of repair for each common defects are presented in Chapters 4, 5 and 6.

Thé measures recommended for new flats includes improvement to design and detailing of building elements, new concrete specification, contractor assessment system, stringent quality and site control and proper supervision. Regular inspection to existing flats are recommended to be carried out on a five yearly basis. This is packaged with a proposed Insurance Scheme for housing maintenance services to help lessee repair and maintain their flats, using reliable contractors at economical prices whilst paying only a small insurance premium.