SUMMARY

The Housing and Development Board (HDB) has been exploring ways of giving better quality housing, and more choice and variety in response to the public’s changing taste and expectations. One of the major concerns facing the HDB is how to provide good quality, spacious and affordable housing for the nation when the construction cost is continuously spiralling. The construction cost of HDB flats has been increasing at an average rate of 10% per year from 1987 to 1991. Over the last 5 years, it has increased by 51%.

One of the solutions to this major national concern is to apply value engineering (VE) for public housing projects. VE is an organised, creative technique directed at analyzing the functions of a product, service or a system with the purpose of achieving the required functions at the lowest overall cost consistent with all the requirements which comprise its value, such as performance, reliability, quality, maintainability and appearance. VE when applied to public housing projects, will control and reduce construction cost without compromising on quality and performance.

The determination of the cost reduction/saving was based on the case studies of four building elements viz main roof, lift machine room, booster pumps and water tanks of a typical HDB high-rise block. A multi-disciplinary team comprising seven HDB construction professionals applied the VE concept and technique to the four building elements.

Results of the case studies revealed that VE enabled cost savings to be derived which ranged from $1,206/- for water tanks to $14,883/- for a lift machine room. The total cost savings for the four building elements amounts to $25,378/- per building block. This
works out to a 9% cost reduction/saving from the construction cost of the original design. When the cost savings per building block was applied to the annual building programme of about 200 high-rise building blocks, the cost savings per year amounts to $5.08M. A return on investment of $18/- was realised for each dollar spent on the VE study.

Considering such cost savings/reduction were obtained without detriment to the required functions, this proved that the application of VE in public housing projects controls and reduces construction cost without compromising on quality and performance.

The widespread application of VE in HDB will ensure that purchasers of HDB flats benefit from quality, spacious, better designed flats and obtain value for money. It will also ensure that the HDB flats remain affordable to buyers. This will work towards meeting the public's changing tastes and expectations for HDB flats at an affordable price.