PLANNING AND DESIGN FOR
RAINWATER COLLECTION IN HDB ESTATES

by

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ABSTRACT

Rain falls abundantly in Singapore. However, there is a lack of natural water catchment areas to collect the run-off, and much of it is allowed to return to nature. Ironically, Singapore has always had a shortage of water supply due to the scarcity of land, aggravated by an ever increasing population, accelerating urbanisation and expanding economy.

This dissertation investigates the possibility of extending the ‘catchment areas’ into the urban environment of Singapore, incorporating rainwater collecting systems in buildings and the urban landscape. As domestic water uses constitute 43.8 % of the national total water consumption, the study will focus specifically on Housing and Development Board (HDB) towns, where more than 80 % of the population dwell.

The main objective of the study is to discover ways in which the planning and design of the HDB residential environment can be made to serve man better in his endeavour to conserve the world's precious and finite natural resources. It attempts to propose a framework for a sustainable rainwater reuse and utilisation, linking engineering and environment, economics and ecology.

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