MAKERERE UNIVERSITY

COLLEGE OF BUSINESS AND MANAGEMENT STUDIES (COBAMS)

Managing Storm water through Rainwater Harvesting In Urban Areas in Uganda: Case Study Nalumunye Housing Estate.

BY

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ABSTRACT

Rainwater harvesting has been practiced throughout history as an alternative source of water but rarely as a storm water management strategy. There has been an increase in impervious land coverage due to urbanization and development which has made infiltration of rainwater into the soil hard. In return this has resulted into an increase in the amount of surface runoff generated when it rains and has also escalated related problems such pollution and flooding. Rainwater harvesting can be embraced to remedy these problems by reducing the volume of runoff at the source.

This research sought to assess the uptake of rainwater harvesting systems in urban areas by examining the practice, accrued benefits as well as the effects of surface runoff in Nalumunye housing estate. Data were collected by administering a structured interview questionnaire in conjunction with observation. Literature from a wide range of sources was reviewed and divided into the following sections: storm water management in urban areas, rainwater harvesting in urban areas, history of rainwater harvesting, rainwater harvesting systems and benefits of rainwater harvesting.

The study established that three quarters of the respondents harvested rain water which they stored in water tanks located above the ground. The harvested water was used for domestic purposes like cooking and washing, cleaning compounds, construction works and feeding animals. In addition surface runoff had an effect on the respondents and from observation some of the roads had gullies which had been created by running water. Rainwater harvesting was practiced to provide an alternative source of water rather than storm water management. It was also noted that no single regulation governed practice in the estate despite the fact that rainwater harvesting has potential to reduce surface runoff and to control source pollution. In addition to regulating the practice, the study identified the need to increase storage capacities so as to match the amount of rainfall received and to increase water retention at the source. Areas for future research have been identified in order to bridge the knowledge gap on rainwater harvesting practice in urban areas of Uganda.

Key words: Rainwater Harvesting, Storm water Management, Surface runoff, Drainage, Pollution