

## **Sanitation and Domestic Water Conservation**

**Avanish K. Panikkar<sup>1</sup>, Surendra P. Shrestha<sup>2</sup> and Steven J. Riley<sup>3</sup>**

School of Engineering, The University of Western Sydney

Locked Bag 1797, NSW 1797, AUSTRALIA

E-mail: <sup>1</sup>avanish@aapt.net.au; <sup>2</sup>s.shrestha@uws.edu.au; <sup>3</sup>s.riley@uws.edu.au

### **ABSTRACT**

Modern lifestyle has increased the dependence on natural resources and the amount of waste that humans create. There are issues associated with pollution and disposal. The tried and tested methods of centralised treatment have proven impractical in the long run in some areas, given the spread of human population. Moreover, such techniques are unsuitable for the developing and under-developed world due to huge infrastructure costs and lack of technology support. Adaptation of technologies from the developed world often does not provide desired outcomes.

This paper examines some of the issues with data from research into biological onsite treatment of domestic wastewater. A treatment system, that was close to natural processes and used biological waste processing methods that have proven to be sustainable, is described. The research focused on the need of finding an ecologically and economically sustainable solution for waste management that is appropriate for developing/poorer regions and remote areas. Available resources and low cost give an edge for such processes to be practical and realistic. Some other water conservation methodologies were also analysed for inclusion for a total water conservation approach.