

Editorial

“Water, water everywhere, but not a drop to drink”

The theme of this Editorial, which is a quote taken from a famous English poet of the 19th century, will be more relevant to the 21st Century, rather than when it was proclaimed by the poet, Samuel Coleridge, almost two centuries ago. Freshwater is believed by many international agencies to have become the greatest single threat to the world's stability, human health, global food supply, poverty, gender inequality, and even the specter of war. For example, it was speculated by the World Resources Institute that more than half of the world's population will be suffering severe freshwater shortages within 25 years. Additionally, “The International Conference on Water” held in Singapore in 2001, concluded that billions of people throughout the world are facing the problem of freshwater shortage, while “The International Freshwater Conference” held in Bonn, Germany, in December 2001, stressed that one fifth of the world's population do not have access to sufficient clean drinking water. This is because wastewater from 2.5 billion people cannot be disposed of hygienically, making polluted drinking water the number one cause of disease around the world, ultimately leading to poverty and gender inequality.

The UN, which proclaimed 2003 as “The Year of Freshwater”, also sponsored the “Third World Water Forum” in Japan in March 2003. This forum confirmed that the world water crisis would reach unprecedented level by 2050, when more than a billion people will not have access to safe drinking water, while more than two million people will die each year from diseases attributed to the use of contaminated water.

The future of fresh water availability in the future looks bleak as the population continues to rise, while pollution continues unabated as two million tons of wastewater is dumped daily into world's waterways.

Are there any solutions to solve this impending water crisis? Currently, two main methods of producing clean water, namely engineering and biological, are being used. The former includes desalination of seawater and chemically treated polluted and contaminated water, both of which consume lots of energy and are so costly that most developing countries cannot afford these methods. But most importantly, the by-products of these treatment processes, such as salt and concentrated toxic materials are often bigger problems in themselves. The latter is the use of plants to clean up deteriorated, contaminated, or intoxicated water. Plants can be used to rehabilitate these waters; moreover, plants can be used along with, or in some cases, in place of mechanical methods. It is an aesthetically pleasing passive, solar energy driven cleanup technique.

At the Third International Conference on Vetiver held in Guangzhou, China, during 6-9 October 2003, a new approach to treat wastewater had been suggested. That is, the use of a humble grass, the vetiver, *Vetiveria zizanioides*, to purify wastewater generated from industrial, agricultural, and domestic activities. Details on the use of vetiver to purify wastewater will be discussed in the Editorial of the next issue of AU.J.T.