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LOW-COST TECHNOLOGIES FOR SAFE DRINKING WATER IN SOUTH-EAST ASIA: OVERVIEW AND APPLICATION TO THE NORTH OF VIETNAM

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Abstract

In spite of the ambition of the Millennium Development Goals (MDGs), water supply and sanitation are still worryingly deficient in South-East Asia (SEA). Due to the rapid increase in population, increased urbanization and industrial activities, and absence of a strong regulatory framework, water quality in this region is impaired due to the high levels of contamination. Because of the challenge of providing safe drinking water from poor quality water sources, development of low-cost drinking water treatment technologies should be considered in SEA countries. This paper aims at: (1) giving an overview on the current water quality in Vietnam as well as in South-East Asia, (2) describing current treatment processes applied in Vietnam, and, (3) discussing how these treatment processes can be adapted to improve poor quality of current processes, by using low cost treatment technologies. One of the problems that people in developing countries are facing is the abundance of organic micro-pollutants in natural water resources, and an example of the consequences of this for public health is an increased number of birth defects, spontaneous abortion, cancers, and disturbances of central and peripheral nervous system in Vietnam. Hence, research on low-cost drinking water treatment technologies should not only focus on removal of contaminants to reduce waterborne diseases, but also on the removal of micro-pollutants to prevent dangerous chronic diseases (including cancer) in large scale drinking water treatment plants.

Key words: adsorption, drinking water treatment, low cost technologies

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