โมเดลการปรับปรุงคุณภาพน้ำบริโภค กรณีศึกษาพื้นที่ตำบลลานข่อย จ.พัทลุง
Drinking Water Quality Management Model: A Case Study of Lan koi Sub-district, Pattalung Province

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Ensuring safe drinking water remains a big challenge in developing countries where waterborne diseases and contaminants cause havoc in many communities. A major challenge is lack of knowledge and understanding; misinformation that works against ensuring that drinking water is safe.

This study was investigated the knowledge and practices of rural households in Lan koi Sub-district, Pattalung Province that is the area of Pakphanang River Basin, one of the important projects initiated by His Majesty King, which concerning the collection, treatment and storage of drinking water. There were sixty households from nine villages, were randomly sampled in Lan koi Sub-district. The data was collected by interview questions, incorporated with survey and knowledge based on forced-choice blocks and administered to the households and key informants. The second purpose of this study was to develop water quality treatment unit that may be used for re-treating "mains" supplied water or water abstracted from water supply. In the case of re-treating water, the unit disinfects the water. This ensures that all pathogenic bacteria have been neutralized. In the case of treating water, the main focus of this work is the removal of iron, followed by disinfection. The main application for this unit is mainly for community, which can be constructed from readily available components and is inexpensive to build and operate in addition it, is simple to maintain, small and compact.

The results showed most respondents were knowledgeable about ideal methods of water source, collection, treatment and surveillance. However, they fairly practiced them appropriately. Some attitudes among the respondents worked against the ideals of achieving safe drinking water. For instance, many households perceived their drinking water source as safe and did not treat it, even when obtained from open sources like mountain water. Furthermore, they had to store drinking water in the containers with lid. Also, hand washing with soap was practiced enough in their daily lives to avoid contact with waterborne hazards. In the results of water quality characterization showed that the major water quality issue in the selected small systems was the high efficiency of iron removal. Based on the analysis of the treatment efficiency in each system, several strategies for water quality improvement were recommended, and a few of which have been implemented in the small systems, leading to improved drinking water quality and compliance with the WHO regulations. This study would provide a valuable aid to be small system operators and local water authority in context of water quality improvement.