

Abstract

The thorough water supply service gives people a good health and quality living. Normally, the water resources of water supply receives water directly from rainfall and/or river. The raw water resource of urban water supply system is supported by a big reservoir or a main river. The purpose of this study was to evaluate the potential of raw water resource for the urban water supply systems. The study areas are consisted of Nakhon Ratchasima, Chaiyaphum, Buriram, and Surin Provinces located in the Northeast of Thailand. The sampling water supply system are consisted of 10 for urban water supply systems. To achieve a purpose, it is important to explore all sampling areas, to interview administrators and users tap water, and to collect data from other agencies. Thereafter, the concept of water balance is considered for the potential of raw water resources based on the both of a reservoir size and the runoff flown to the reservoir. The runoff is mainly inflow to reservoir and river so the runoff is calculated using the rainfall in the return period 1 yr 5 yrs 10 yrs and 20 yrs to consider the scenarios. Water demand of communities are mainly outflow from system. The study found that, for all urban water supply systems, the raw water resource can supporting the water demand during 2016 to 2036 because the urban water supply systems are supported by a large reservoir or located nearby a main river. However, if a water demand is higher than a raw water, the exceed water should be stored in the reservoir. Moreover, the information and data of water supply system should be collected to apply for urban water supply planning in a future.

Keywords: Water Supply, Surface Water Resources, Urban area, Water Balance