

Introduction of Water Footprint Assessment Approach to Enhance Water Supply Management in Malaysia

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Abstract

Presently, Water Footprint (WF) Approach has been used to assess the sustainability of product's chain globally but still lack in services sector. Thus, this paper aims to introduce WF assessment as a technical approach to determine the sustainability of water supply management for the typical water supply treatment process (WSTP) used in Malaysia. Water supply is one of the pertinent services and most of WF accounting begin with data obtained from water supply treatment plant. Therefore, the amount of WF will be accounted for each process of WSTP in order to determine the water utilization for the whole process according to blue, green and grey WF. Hence, the exact amount of water used in the process will be known by applying this accounting method and the sustainability of water supply management in Malaysia will be able to assess. Therefore, the WF approach in assessing sustainability of WSTP will be able to be implemented.

INTRODUCTION

In Malaysia, most of water sources came from blue water resources, which are either groundwater or surface water, and mostly from the river (Yuk Feng, Shin Ying, Khia Min, & Teang Shui, 2015). Usually, before water is delivered to consumer, water will be taking from the aforementioned sources and then will be undergoing series of treatment process to ensure it is safe for the users. In term of consumer's attitude towards water appreciation, it cannot be certain that to what extent does the treated water is fully utilized and not wasted by consumer. However, it can be managed to be more utilized during the treatment process. This will be the first step of taking the whole water resources and supply management into the sustainability management. Thus, it is important to manage water resources to be more sustainable in order to satisfy consumer, economically significant and not harming the environment.

Water Supply Management in Malaysia

Water management in Malaysia is governed by two authorities; federal government which is administered by the Ministry of Energy, Green Technology and Water, and local state government (Rahman & Khalid, 2009). The role of Federal government is to supervise all the activities conducted by local state Water supply regulations, general waterways maintenance, pipelines and drainage maintenance, are some of the activities managed by the local state government (Abidin, 2003). All the activities involved in water management is under advised by the National Water Services Industry Act (NSW) and the National Water Services Commission (SPAN), this is to enhance the management of water in the country under the Water Services Industry Act 2006 Water (Rules, 2007). However, Rahman and Khalid have proved in the study of water resource management in Malaysia that the problems of managing water resource is because of unclear power of Federal and States Governments