Malaysia's Water Security and SDG: Development of a National Water Balance Management System: Case Study of the Muda River Basin

Nor Hisham BIN MOHD GHAZALI[+], Asnor Muizan ISHAK[#]
Department of Irrigation and Drainage Malaysia, Malaysia
[#]Corresponding author: drasnorjps@gmail.com [+]Presenter

This paper describes an ongoing effort in water security in Malaysia in support of the United Nations 2030 Sustainable Development Goals (SDGs). It presents the development of the National Water Balance Management System (NAWABS) with the Muda River Basin component as a case study. The water resources of the Muda River are shared between the states of Kedah and Penang and the competing sectors from both states present notable challenges. The agricultural, domestic, commercial and industrial water demands of these two states are such that in an average year, about 70% of the basin's water resources are utilized. As a result, water shortages have now become a regular occurrence hence careful management of the resource is urgently required. The Department of Irrigation and Drainage (DID) is cognizant of the fact that water security, although a necessity, may not be clearly evident in some of the SDGs. Hence, a system that quantifies and manages cross-sectorial water demands is essential to promote understanding, decision-making and instigate re-alignment of the multi-sector strategies towards achieving the SDGs. NAWABS implementation aims to strengthen integrated water resources management in the Muda River Basin with the intention to replicate the system to other basins in the future. It is a computerized system being developed based on several investigative studies into water demand and water balance. The main findings from each of these studies are presented in this paper.