

## **DECISION MANAGEMENT SUPPORT SYSTEM TO ACHIEVE CATCHMENT WATER BALANCE**

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### **ABSTRACT –**

Malaysia is blessed with abundant sources of water. However, the supply is not evenly distributed, neither spatially nor temporally. In recent years, due to development pressures, water mismanagement and climate change, the water supply situation has changed from relatively abundance to relatively scarce. Malaysia has formulated and endorsed the National Water Resources Policy (NWRP), 2012. It is proposed as a comprehensive water resources management instrument that facilitates a coordinated planning approach to state water managers in-short to medium-term. Muda basin has been selected as first to be incorporated into the new system. NAWABS provides a framework for knowledge sharing, improve understanding river system behaviour, as well as to evaluate alternative developments and operational management schemes. It also supports informed decision-management from a state water resources manager and inter-state planning perspective with the shared objective of developing water resources in a cooperative manner, sharing socio-economic benefits, and promoting efficient water utilisation. The system is built around a comprehensive Decision Management Support System framework that is customised specifically to support the water resources operational objectives, with further local customisations for each river basin, as needed. The developed models and NAWABS DMSS is used to assess existing water balance and future scenarios, as well as an operational system for real time decision management and water accounting. The model utilizes inputs from the inflow forecast and integrated surface – groundwater model, to ensure water resource availability is based on best available information. The operational system will enable state water resources managers to better balance supply and demands, through an improved assessment of the future low conditions and the ability to assess the risk of various operational strategies.

### **Keywords :**

Water Resources Management, NAWABS, IWRM, Water Managers, Improved Assessment, future condition.