THE MALAYSIAN WATER ASSOCIATION

STAKEHOLDERS DIALOGUE ON THE 12TH MALAYSIA PLAN: WATER SECTOR TRANSFORMATION



Enhance Water Governance for Water Sector Transformation – Panel Discussion

The Journey from Policy to Law, from Plans to Management Tools



Water Security

is defined as the **capacity** of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems....

Water is central to achieving a larger sense of security, sustainability, develoment and human well-being. UN-water supports the inclusion of water security in the post-2015 development agenda as part of the Sustainable Development Goals.

(UN-Water, 2013)

Malaysia as a developing nation are facing numerous issues & challenges to build a water secure nation



BARRIERS & CHALLENGES

IRBM : How we can work together?





IRBM as a masterplan



Dam Operation

IRBM as a **Masterplan** to refine Action



ENABLERS FOR WATER RESOURCES



Water-Food-Energy Nexus is the key enabler for water security to allow integrative management and planning of the future resources





Competency gap filling and capacity building to perform job related task through Competency-Based Human Resource Management (CBHRM)



DID conduct IRBM studies by basin to major river basins in the country

12 studies ready,25 studies to becompleted by 2020



State Water Authority handling human intervention by enforcement and IWRM adaptation



Integrated National Water Policy to sync and guide all Federal & State Government Water Resources Act (RUU), a holistic water law to implement IWRM & IRBM approaches



NAWABS & NAFFWS (PRAB) are management tools in water resources management



Mainstream TMDL (Total Maximum Daily Load) in rehabilitating, enhancing and preserving river



WATER BALANCE

The amount of water entering and leaving a control space during a specific time period

WATER BALANCE MANAGEMENT

Balance of supply and demand in a domain (river basin; territory)

Established Water Balance Model



(3,254,555 km2)





Tarim River, China (557,000 km2)



Murrumbidgee, Australia (84,000 km2)

Water evaluation and planning system (WEAP) model

widely used to analyze the complex water resources systems and to examine supply and demand management strategies. (Ex. Indus River, Pakistan)

Benefits of Water Balance Modelling

- Updated information of Water Availability
- **Current & Projected Water Demand**
- Water Transfer Option (Inter basin & Intra basin)
- Water Storing & Allocation
- Integration of surface water & groundwater



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Predict imminent drought 2 months in advance

Issue warning 14 days in advance

Identify sectors to be given priority when water is scarce

Identify location to source water to supplement the supply

Prepare for a water shortage emergency



"Towards a water ready nation"

Water Resources Security and Sustainability



National Flood Forecasting and Warning Program (PRAB)

-Flood forecasting model for 3 major river basins

- To provide information of impending flood situation with lead time of more than 2 days warning.



CONCLUSION

IRBM lays the foundation for planning and development in a river basin; produces action plans against various scenarios and guidelines

NAWABS is a decision making tool for balancing water demand against availability against development and scarcity scenarios

PRAB is a decision making tool for forecasting or predicting floods

Policy lays the principles and laws cause behavioural change.

Management tools assist decision-making, accounting and prioritization-

- future water scenarios can be planned for;
- ability to forecast and anticipation of future threats leads to early response≈

Thank You

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"All we have to decide is what to do with the time that is given us."

J.R.R. Tolkien

wordables.

