PRESENTATION 2

ISSUE/CHALLENGES/STRATEGIES/WAY FORWARD

GROUP: 1 – Water Resources

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
1. Federal & States' Jurisdiction - Federal formulates the policy but states implement the policy - Conflict in revenue generation and policy implementation	• Shared vision • All States to create Enactment on Water Resources and clear institutional arrangement
2. States' ability to implement and enforce the policy - E.g. Lack of funding, technical assistance	• Capacity building • Prioritisation – limited resources
3. Lack of political will - Need to plan beyond 5 years - Do not politicise water issue	• Study to increase water tariff just like electricity tariff
4. Lack of awareness on the value of water	• Change mindset through education, campaigns, outreach programmes • Social science and humanities analytics
5. Lack of R&D	• Target-oriented research – NAWABS, all river basins • Benchmarking study on Malaysian performance

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
6. Existing strategic reports not being publicised / published / disseminated widely - E.g. ASM publication: National Integrated Water Resources Management Plan	• Develop more effective way to disseminate key findings of existing strategic reports • Need technical advisors to contextualise the policy reports / translate into action plan
7. Data integration/sharing - Strong ownership of data and not willing to share data with Federal / States / other Ministries / Agencies (some Agencies charge for their data)	• Improved data access and coordination • Revisit MYGDX: Malaysia Government Central Data Exchange – system by MAMPU • Develop standardised protocol to enable data quality by various organisations
8. Inclusion of local communities to steward the water catchment	• Build the capacity of local communities through training programmes • Empower the local communities to be the 'eyes and ears' of the enforcement agency.

GROUP 2: Water Supply and Sewerage Services

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
1. Availability of funds	1. Depoliticized tariff increase - Regulated full cost recovery 2. Government to continue funding for rural areas 3. Joint billing between water and sewerage operator as first step towards water management
2. Unwillingness to connect properties to sewerage service	1. Enforcement and review of existing laws 2. Government to continue funding for rural areas
3. High NRW	1. Continue incentive through NRW program approach 2 (matching grant Ringgit to Ringgit) 2. New grant for AC pipe replacement program
4. River Pollution	1. IWK to takeover private sewerage system 2. IWK to provide O&M for State Government public sewerage system 3. Stringent enforcement 4. Upgrading aging plants to meet latest standards

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
5. Water Resources Availability	1. Multi-purpose infrastructure for water resource / ORS 2. Integrated development planning 3. WRP, Johor 4. Grey water reuse for industrial and agriculture usage
6. No long term water supply planning	1. National/State development master plan
7. Treated effluent infrastructure	1. Zero waste policy 2. Grant / incentive to support waste to wealth initiative 3. Legal/policy framework to facilitate
8. Conflict of policy	1. Streamline of policy planning

GROUP 3 : Water for Agriculture

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
Water resources - competition with other user such as industry and domestic, the water for agriculture now become limited. Infrastructure was developed for irrigation supply however due to competition the supply for irrigation become the last priority.	1. Coordination with state government as the water in state list. 2. Ground water as the alternative water resources for agriculture.
The water from the river cannot supply to the irrigation canal as the minimum level for pumping not achieved. The level of water in the river drop due degradation river bed level (main causes) flood and sand mining	1. Coordination with state government as the water in state list. 2. Policies and enforcement for Sand Mining.
Aging Infrastructure, more than 30 years back- un efficiency due to poorly maintenance and floods	1. Efficiency study for the irrigation facilities. **2. Upgrade and replace with efficient infrastructure**

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
The fund allocated for maintenance the irrigation and drainage 10% from the total fund required	1. Revised yearly maintenance allocation **2. Grant from federal (ex: MARRIS for road)**
Most of infrastructure manually operated; as over supply cause wastage while less supply will affect paddy growth and yield.	Application system IR4.0. Implementation technology-automation on manual operated infrastructure.
Poor Farm Management: 1. Do not follow planting schedule 2. Over tapping by upstream 3. Vandalism	Educated farmers on farm management, empowered farmer by ownership for maintenance infrastructure – under Kumpulan Pengguna Air fund allocation

GROUP: 4

WATER QUALITY

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
1. Not all pollution sources under DOE - Clear role & responsibility under state/federal	i) Assigning the relevant agency for pollution control
2. No common target on water quality	i) Set clear water quality target based on beneficial uses. ii) Gazette water quality target
3. Lack of emphasis on pollution loading control	i) Implementation of Total Maximum Daily Load (TMDL) – states to champion and others will follow ii) Integrated data centre for TMDL (one stop data centre)
4. Water quality index and standard need to be revised	i) Current- in progresses under DOE,MESTECC ii) Include biological, emerging pollutant indicators
5. Minimised pollution discharge	i) Recycle / recovery – potable and non-potable use ii) Advance polishing system iii) Reduced water footprint

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
6. Lack of awareness	i) Public outreach program ii) Capacity building for implementation agencies
7. Non-point source pollution	i) Riparian preservation and restoration ii) Implementation of Erosion Sedimentation Control Plan (ESCP) iii) Land Disturbing Pollution Prevention Mitigation Measures (LDP2M2) iv) Pervious areas v) Nutrient management plan – nutrient pesticide management vi) Constructed Wetland eg. Putrajaya Wetland vii) Best Management Practice (BMPs)
8. Point source- exceeded carrying capacity	i) Diversion outfall pollution
9. Tap water quality	i) Access through data ii) MOH-currently developing drinking water quality index (consensus on DWQI)

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
10. Lake water quality	i) Monitoring of lake water quality by state/lake operator ii) Enhance Research & Development on lake
11. No bacteria limit in sewerage effluent	i) Review effluent regulation- eg.introduce bacteria count limit
12. Coastal and ground water	i) Enhance research and monitoring – groundwater & coastal
13. Sewage discharged, overflow, by-pass, dumping etc	i) Improve connection to CSTP

GROUP 5:

Water as an Asset

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
Formulate water balance for all water resources • Lack of continuous measuring facilities	• Provide budget to install facilities
Inclusiveness of water ownership • No sense of belonging across the board	• Awareness creation ie campaign, Public Outreach Program (POP), • Setting the foundation for water as an asset (yayasan) • Assign one agency for effluent and pollution control
Lacking of awareness for valuing water • Water tariff is much lower than full cost recovery	• Embrace technological advancement to increase water value
Asset & Data Management • Stakeholders working in silo	• Establish water asset management functional tools i.e database • Emulate data sharing & decentralize data management

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
1. Formulate water balance for all water resources	
1. Inclusiveness of water ownership	
1. Embrace technological advancement in water value appreciation	
1. Creating awareness for valuing water	
1. Setting the foundation for water as an asset (yayasan)	
1. Establish water asset management functional tools i.e database	

GROUP 6:

WATER-RELATED DISASTER RISK MANAGEMENT

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
Heavy focus on structural measures for flood mitigation- non structural measures are not given enough emphasis because of federal & state jurisdiction	Focus on non-structural measures (preservation of wetlands, controlling land use) Control at source method using green infrastructure Comprehensive study on the economic benefits of green infrastructure (ecosystem accounting pilot study)
Development is being carried out on flood plains due to space constraints in urban areas	Develop flood plain management plans
No legislation to govern the design and management of dams	Develop and implement Dam Safety Act Explore establishment of a governing body for dam management
Infrastructure is not designed to withstand future climate change and sea level rise	Incorporate climate change and sea level rise impact in planning and design Guidelines for infrastructure design Comprehensive V&A assessment for infrastructure
Flood risk map not open to public and coverage is limited to certain river basins	Data sharing Increase coverage of areas in flood risk map

ISSUES/ CHALLENGES	STRATEGIES/ WAY FORWARD
Areas gazetted for flood retention ponds have been developed for other purposes	States to honour gazetted areas
Loss of natural forest cover and/ or land use change	Identify and gazette natural forest which are important for flood mitigation
Dry spells due to climate vulnerability and climate change	More multi-purpose storages and small dams Comprehensive early warning systems for drought
Coastal flooding and erosion	Protection through mangroves planting
Insufficient strategic R&D to ensure adequate and sustainable water	Strengthen R&D for disaster risk management