



# TRANSFORMING WATER SECTOR

## GROUP 1: END USER





NO.	ISSUES/ CHALLENGES
1	<ul style="list-style-type: none"> <li>• <b>Water Resources Management</b> <ul style="list-style-type: none"> <li>• Ineffective implementation of water-related policies/ legislation</li> <li>• Lack of consideration for water in development planning</li> <li>• Low awareness and participation of non-state actors</li> <li>• <del>Lack of water related database</del></li> <li>• Lack of risk and vulnerability asesement due to changes in river basin component e.g. catchment area, wetlands, riparian zone, peatland, and forest area.</li> <li>• Lack collaborative efforts between managing authority and water experts</li> <li>• Lack of holistic database on water resources ( Ground water, recycle water, rain water etc)</li> <li>• Absence of Integrated Water Management System - IWMS (ie control room)</li> <li>• Non standard “Badan Kawal Selia Air” for all States</li> <li>• Insufficient enforcement officer for river management (ie River Inspectorate)</li> <li>• Lack of enforcement and light penalty to river polluters</li> <li>• Double standard of enforcement for public and private</li> <li>• Weak enforcements at Local Authorities level (ie approval on developments leading to illegal factories etc )</li> <li>• Absence on comprehensive ground water mapping to identify volume/replenishment rate</li> <li>• Absence on policy/guidelines/Regulation/ Act and lack of monitoring on ground water abstraction</li> <li>• Lack of knowledge on impact climate change on future water resources availability</li> <li>• Lack of adaptation plan for climate change</li> <li>• Water scarcity in urban landscape due to lack of green design to allow rainwater storage by natural infiltration</li> </ul> </li> </ul>



NO.	ISSUES/ CHALLENGES
2	<ul style="list-style-type: none"><li>• <b>Water Services (Water Supply and Sewerage Services)</b><ul style="list-style-type: none"><li>• Financial sustainability issues</li><li>• Unreliable water sources</li><li>• Expensive infrastructure</li><li>• Absence of integrated water services (ie water &amp; sewerage services)</li><li>• <b>Absence of integrated water services/management (ie water &amp; sewerage services) continuation of 11MP</b></li></ul></li></ul>
3	<ul style="list-style-type: none"><li>• <b>Water Quality</b><ul style="list-style-type: none"><li>• Legislative gap</li><li>• Insufficient enforcement capacity</li><li>• <b>Lack of provision for ecological carrying capacity of the rivers</b></li><li>• <b>No legislative for bacteria, <i>e-coli</i> and fecal coliform EQA</b></li></ul></li></ul>
4	<ul style="list-style-type: none"><li>• <b>Water as An Asset for Wealth Creation</b><ul style="list-style-type: none"><li>• Lack of awareness, knowledge, infrastructure and access to technology on resource recovery</li><li>• <b>Absence of One Stop Centre on Water Industry (ie Hub, dedicated university/college)</b></li><li>• <b>Non comprehensive/holistic asset management</b></li></ul></li></ul>

NO.	ISSUES/ CHALLENGES
5	<ul style="list-style-type: none"><li>• <b>Water-Related Disaster Risk Management</b><ul style="list-style-type: none"><li>• Lack of focus on integrated and non-structural measures</li><li>• Current infrastructure design does not take into account adaptation measures for disaster</li><li>• Lack of R&amp;D</li><li>• Lack of SOP for water crisis and flood (i.e water crisis drill, vulnerability and risk assessment)</li></ul></li></ul>
6	<ul style="list-style-type: none"><li>• <b>Water for industry</b><ul style="list-style-type: none"><li>• Insufficient enforcement</li><li>• Discharge from industry mining</li><li>• Zero discharge for reuse</li><li>• Lack of workforce competency for development of human capital asset</li><li>• Lack of adoption on best management practices on water management for industry operation (ie agriculture – oil palm etc)</li><li>• Absence of integrated water supply/water cycle management</li></ul></li></ul>

NO.	ISSUES/ CHALLENGES
7	<ul style="list-style-type: none"><li>• <b>Governance of water agencies</b><ul style="list-style-type: none"><li>• Lack of coordinaton between water related agencies and local authorities</li><li>• Lack of monitoring on the effectiveness on related action plan</li><li>• No good drivers on water industry</li></ul></li></ul>
8	<ul style="list-style-type: none"><li>• <b>Water for environment</b><ul style="list-style-type: none"><li>• Lack of flushing system in the rivers during dry season</li><li>• Absence of guidance for environmental flow</li><li>• Lack of awareness of multitude benefits from healthy river ecosystem</li></ul></li></ul>
9	<ul style="list-style-type: none"><li>• <b>Water education</b><ul style="list-style-type: none"><li>• Absence of environment, health and water subjects in education system</li><li>• Water values</li><li>• Lack of aggressive public awareness programme</li><li>• Lack of awareness on value of water &amp; conservation amongst community (ie household, mosque etc)</li></ul></li></ul>



NO.	ISSUES/ CHALLENGES
10	<ul style="list-style-type: none"> <li>• <b>Financial issues</b> <ul style="list-style-type: none"> <li>• Lack of good financial model that beneficial to government, private and public sector.</li> <li>• Lack of knowledge and economic values of water ( water too cheap compared to electricity/Astro)</li> <li>• Lack of cost benefits analysis/transparency on ROI (ie Federal grant to State)</li> <li>• Minimum private involvement to help growth (ie too conventional – BOT, BOOT, DBT, PFI. PPP ect)</li> <li>• Water Sector has been made the lowest priority in development and operation budget</li> <li>• Water tariff too low to support O &amp; M of water services and resources</li> </ul> </li> </ul>
11	<ul style="list-style-type: none"> <li>• <b>Water for agriculture</b> <ul style="list-style-type: none"> <li>• Competition on water resources usage with other sectors</li> <li>• Aging and poor maintenance of irrigation infrastructure</li> <li>• Consume most water (70% of fresh water) and discharge polluted water</li> <li>• Biggest pollutant to water bodies through pesticides and fertilizer</li> <li>• Insufficient of river bufferzone for farming activities (guidelines available but not gazette)</li> <li>• Lack of political will - leading to enforcement issues (lack of gazetment of riparian bufferzone)</li> <li>• Absense of modern farming (integrated – model for crowd farming/fundings incentives and benefits e.g. Royal ASFA50)</li> <li>• Uncoordinated conventional and modern irrigation farming for paddy</li> </ul> </li> </ul>

NO.	ISSUES/ CHALLENGES
12	<ul style="list-style-type: none"><li>• <b>Water R&amp;D &amp; Innovations</b><ul style="list-style-type: none"><li>• Lack of dedicated R&amp;D fund</li><li>• Lack of incentives on R&amp;D and Innovations at all levels</li><li>• Underutilised expertise and facilities</li></ul></li></ul>

<b>NO.</b>	<b>WISHLIST</b>
1	Water & Wastewater Hub for the developing countries (suggest platform is NAHRIM)
2	Sustainability through zero waste management
3	Water University/College (Water resource & Water supply)
4	Full competency workforce for local at all level
5	New financial model to attract investment (private sector to expedite growth)
6	Better incentives on green technology related to water (ie water recycling/reuse)
7	Better water tariff to reflect the value of water (both raw and treated) to nature and people
8	Environmental tax to polluters and incentive/deduction on efforts to minimize pollution
9	Ammendment to existing Act on the trade effluent (discharge into sewerage system)
10	Integrated Water Management System to be shared with the public (general info through Apps)
11	Implementation of Tariff Setting Mechanism for water, Sewerage and sale of raw water

<b>NO.</b>	<b>WISHLIST</b>
12	Water resource centric strategies by all sectors to improve and sustain the water security
13	Introduce environmental tax/ses (polluter-pay principle/environmental land tax)
14	Interceptor for non-metal industry waste and treat at sewage treatment plants
15	Lack of the use of technology to control/mitigate water pollution (relied on manual workforce)
16	Financial institutions to adopt Environment, Social and Governance (ESG) in their lending and products
17	IRBM plan needs to be gazetted for its enforcement for development and local planning e.g. shoreline management plan, NAWAB water tool.
18	Farming sector needs to be more efficient in water usage
19	Implementation of integrated farming/modern agriculture
20	Create competitions at school and university levels on water R&D and innovations through the MWA water, energy NEXUS club at school
21	Establish Water Energy Nexus Club at Schools to build water & energy conservation culture
22	Encourages pilot projects that incorporate circular economy and life cycle thinking in the development of infrastructures

<b>NO.</b>	<b>WISHLIST</b>
23	Develop national adaptation plan to increase water resilience
24	Effective implementation programme on RMKe12 with specific timeline
25	Establish SOP on water crisis and flooding (i.e. water crisis drill)
26	Establish akaun amanah industry bekalan air and enforcing kumpulan wang industry air - Akta WSIA section 171
27	Enforcement of building bylaw on only rainwater goes into the drain (i.e sullage goes into sewage system)
28	Dedicated syllabus on water, environment and health at school level
29	Effective and continuing public awareness and education programme
30	Elimination of squatters/illegal settlers along on river reserves.
31	Implementation of integrated water supply management (water supply sewerage, industry agriculture and husbandry etc)
32	Introduction of new technology e.g. constructed wetland to treat sewage and reduce operation cost
33	Application use of water footprint ISO 14046 by the industry to optimize water usage

NO.	WISHLIST
34	Online approval of all water projects via water 4.0 model
35	Stakeholder shares in the water industry
36	Adopt concept of water ringmain to solve water crisis and sharing on water supply
37	Usage of control groundwater for remote/ isolated communities
38	Need a good driver to drive the implementation programme (suggest PM)
39	Establish taskforce to monitor implementation and impact of all programme
40	Establish benchmarking for sharing between stakeholders on their performance