ASEAN IWRM PERFORMANCE REPORTS & MONITORING INDICATORS

Malaysia 2013 Report (Water Supply Management)

Outcome Indicators

IWRM Issue 1 - Water Supply Management (34 indicators)			
Indicator Types	**Indicators**	**Progress**	**Description**
Outcome Indicators	1. Percentage of population having access to piped drinking water	95.1%	**See Note 1**
	2. Percentage of water delivered to customer meeting WHO guidelines for drinking water quality	100 %	
	3. Average hour of water supplied/day	24 hr/day	
	4. Per capita domestic water consumption	210 l/c/day	
	5. Percentage of water supply metered	63.4%	
	6. Percentage of UFW/NRW	36.6%	**See Note 2**

Note 1

Water supply services coverage or commonly known as service factor represent the proportion of people in a State that have access to the public water supply. That is, higher coverage means more people will have access to the piped or safe drinking water supply from the water operator. This service factor also represents the ability of the water operator to extend their service to the total population. Hence, it serves as an indicator whether the water infrastructure provided is able to catch up with the urban and rural population growth over time.

Nevertheless, water supply service factor is subjected to several factors besides the size and capacity of the distribution network. It is also affected by the availability of other alternative water resources. For instance, the service factor in Kelantan is 62.25% up from average 61.45% in 2013 compare to the rest of the States mainly already attained above 90% or up. This is due to the availability of groundwater or direct abstraction from rivers or lakes that make part of the population less dependent to the public water supply services. And hence, the service factor for Kelantan is merely the percentage of population that is connected with water supply. It does not fully reflect the level of service or accessibility to the public water supply in the State.

Table: Service Factor for Malaysia*

State	2013		2014	
	Urban %	Rural %	Urban %	Rural %
Perlis	100	99	100	99
Kedah	100	100	100	98

Source: ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015
[weblink - aseaniwrm.water.gov.my]

Penang	100	99.7	100	99.7
Perak	100	98.6	100	99
Selangor	100	100	100	100
Negeri Sembilan	100	100	100	100
Melaka	100	100	100	100
Johor	100	99.5	100	99.5
Pahang	100	98	100	98
Terengganu	99.5	93.8	99.6	94
Kelantan	59.5	63.4	60.5	64
F.T Labuan	100	100	100	100
Average	**96.6**	**96.0**	**96.7**	**95.9**

* Except State of Sabah and Sarawak

Note 2

The national level of NRW remain as high as 36.6% in 2013. High levels of NRW are detrimental to the financial viability of water utilities. Many NRW programs and efforts have been implemented and would progressively be carried out to reduce NRW. Funding remains the biggest challenge in reducing NRW for all the states.

SPAN is actively promotes the migration of water operators (Kedah, Pahang, Terengganu, Kelantan, Selangor and FT Labuan) to the WSIA asset-light model. The migration to Pengurusan Aset Air Berhad (PAAB) will facilitate the acquisition of funds / financial resources to implement new water supply projects and reduce of NRW.

SPAN is continual to monitor the status and progress of efforts in NRW management which involve the comprehensive leakage repair, replacement of production meter, establishment of District Metering Zones (DMZ), proper water pressure control and replacement of dilapidated pipes; review methods, approaches and best management practices used in NRW national and international levels and consequently recommends the use if appropriate; and suggest other related policies NRW management from time to time.

Enabling Environment Indicators

EE Indicators	1. Any “Policy” on water supply management	Yes	**See Note 1**
	2. Any “Legislation/Regulations” on water supply distribution management	Yes	
	3. Any “Legislation/Regulations” on water supply quality management	Yes	
	4. Any “Legislation/Regulations” on water conservation management	Yes	

Source: ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015
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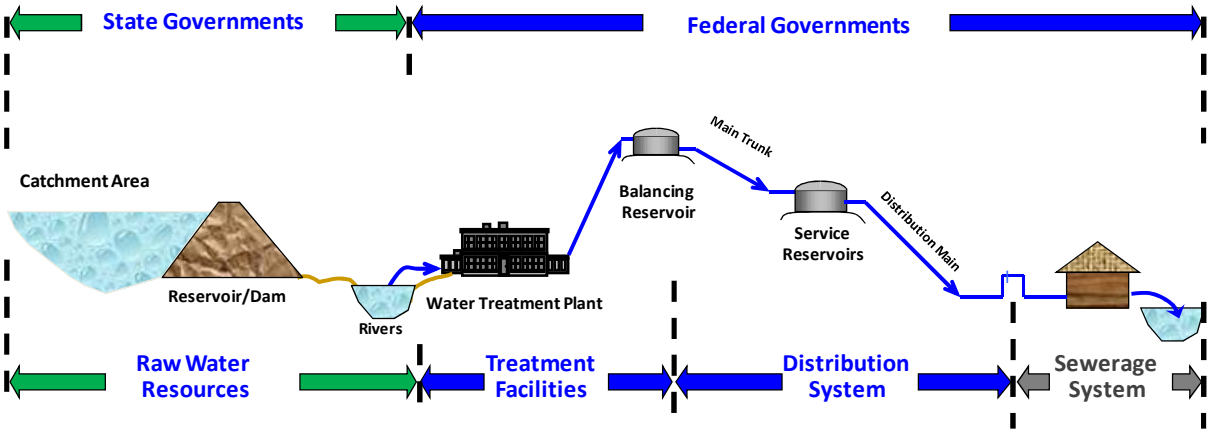
	5. Any "Financial framework and Financing plans" for development of water supply	Yes	
	6. Any "Operator business plan" (Annual Budget, Manpower resource plan, etc.)	Yes	

Note 1

The National Water Services Commission (SPAN, Act 654) and Water Services Industry Act (WSIA, Act 655) which had come into effect on 1st February 2007 and 1st January 2008 respectively has enabled the consolidation of the water management and the regulatory functions of the water services for the country (except for Sabah and Sarawak).

Nevertheless, water resource which is still remains exclusively under the State's jurisdiction. There is no uniform law to manage and regulate the water resource by 13 States and 3 Federal Territories (FT).

Malaysia is currently relying on surface water that 98% of the potable water supply is treated from both direct extractions from river and dam storage.



Institutional Set-up Indicators

IS Indicators	1. Any water supply planning and policy department	Yes	**See Note 1**
	2. Any water supply quality office, water testing lab, water sampling team	Yes	**See Note 2**
	3. Any water supply operation centre	Yes	
	4. Any water conservation unit	Yes	
	5. Any water meter management unit	Yes	
	6. Any customer account/meter reading/billing unit	Yes	
	7. Any water meter workshop	Yes	
	8. Any water leak detection unit	Yes	
	9. Any 24-hr water supply call centre	Yes	

Source: ASEAN Working Group for Water Resources Management (AWGWRM) – April 2015 [weblink - aseaniwrm.water.gov.my]

	10. Any water supply network maintenance unit	Yes	
	11. Any water supply meter management unit	Yes	
	12. Any water supply EMI unit	Yes	

Note 1

In Malaysia, water supply management involves various stakeholders or agencies from different administrative governments including the water operators. In order to monitor and regulate the water supply industry, SPAN is monitoring the planning and implementation of water infrastructures developments in the water operators' Business Plan to ensure the water supply security in each respective States.

Reserve margin is commonly use as an indicator for the necessary source work development planning. SPAN recommends 10-15% as a factor of safety or buffer in order to ensure the available treatment capacity as well as the distributable capacity are able to meet water demand increases over time. Overall, the reserve margin nationality status of water supply in Peninsular Malaysia and the Federal Territory of Labuan was 14.1% in the fourth quarter of 2014.

Note 2

Water quality monitoring and testing is carried out by the Ministry of Health (MOH) through the National Drinking Water Quality Surveillance Program at various stages to ensure water quality standards are met. The water quality test is carried out on water:

(a) released from water treatment plants;
(b) released from balancing and service reservoirs; and
(c) in the distribution system before entering the consumers' premises.

The treated water is tested for up to 37 different parameters including taste, color, odor, micro-organisms, chemical content and pesticides .To monitor the drinking water quality performance of the water treatment operators and water distributors, water quality Key Performance Indicators (KPI) based on the Quality Assurance Program (QAP) has been imposed on the water operators and distributors.

Although water quality monitoring and surveillance are conducted by MOH, under section 41 of Act 655 for water quality, the water distribution licensee shall, when supplying water to any premises, shall ensure that at the time of supply the quality of water complies with the minimum quality standards as prescribed by the Minister. In this regard, SPAN had, in 2010, formulated the "Draft Drinking Water Quality Framework" as a guideline for water operators to comply with water quality requirements. However, MOH is expected to introduce and table to Parliament the "Safe Water Drinking Bill" in 2015 and it is anticipated that Section 41 of Act 655 will be amended accordingly.

To enhance the monitoring of water quality performance among the water treatment operators, SPAN implemented a monitoring procedure in May 2010 where all water treatment operators are required to submit monthly water quality reports on their respective in-house water quality monitoring and testing conducted by their own personnel at the plants. This will provide a second set of water quality performance to complement the test by MOH. In addition, SPAN

also required water operators to establish their own internal central accredited laboratories to enable them to conduct their own water quality monitoring programs and build competencies and confidence in water quality monitoring.

Management Tools Indicators

MT Indicators	1. Any short and long term water demand projection and infrastructure development plan	Yes	
	2. Any water safety plan – e.g. water sampling programme, water testing lab, real time monitoring of water quality at water treatment plants and service reservoirs	Yes	
	3. Any water supply pressure monitoring system – e.g. pressure sensor/ monitoring in network, flow and level monitoring at service reservoirs, waterworks outputs	Yes	
	4. Any water conservation plan – e.g. water saving measures, public education programme	Yes	
	5. Any water supply meter installation plan – e.g. all new premises must be metered	Yes	
	6. Any monitoring of water treatment plant output meters – e.g. all are metered and the meters are checked periodically	Yes	
	7. Any water meter management system – e.g. comply with ISO/EU standard, error check system, meter replacement programme, meter repair and testing facilities	Yes	
	8. Any water supply network record /mapping system, network asset management and pipeline replacement/ renewal programme	Yes	
	9. Any water supply leak detection programme	Yes	
	10. Any 24–hour Call Centre and Operation Centre for feedback on leak and deployment of crew for repair	Yes	

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