BENGKEL PENYEDIAAN KERTAS STRATEGI TRANSFORMASI SEKTOR AIR NEGARA RANCANGAN MALAYSIA KEDUA BELAS

WATER SERVICES

By NOORHASHIM BARON

CONTENT

- Common Challenges Facing The Water Industry
- Water Services Reforms In Malaysia
- Water Demand Management

Challenges Facing The Water Industry

Government has duty to ensure that the social obligations are met and the consumers are not burdened





There is tendency for water tariffs to be kept low. But....



revenue insufficient to fund operations and maintenance resulting in below par operational efficiency and services



Lack of an effective regulatory regime

- Malaysia is amongst the few developing countries which have a Comprehensive Policy and Legal Framework For the Water Services Reform
 - Water Services Industry Act (WSIA)
 - National Water Services Commission Act (SPAN)

Per Capita Consumption (in Malaysia)

Chata	Consumption Per Capita Per Day										
State	(I/cap/d)										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Johor	207	205	218	216	221	223	220	211	201	200	
Kedah	236	231	222	226	226	25	229	223	223	217	
Kelantan	142	137	145	137	136	140	147	146	144	141	
F.T. Labuan	225	205	207	219	164	167	170	168	165	161	
Melaka	268	225	231	233	237	237	234	235	234	228	
N. Sembilan	239	215	223	227	227	227	223	226	229	222	
Pulau Pinang	285	286	291	285	294	296	293	291	290	277	
Pahang	228	183	175	186	186	189	187	187	202	190	
Perak	218	222	228	230	237	234	239	236	235	227	
Perlis	229	205	257	247	241	242	258	249	259	245	
Sabah	106	129	85	107	115	109	114	109	115	108	
Sarawak	129	133	188	188	175	168	173	172	168	165	
Selangor	234	235	239	230	235	235	231	234	234	222	
Terengganu	189	192	212	207	205	211	216	214	215	204	
MALAYSIA	205	202	209	210	212	210	211	209	209	201	

How much water we need

Summary of requirement for water service level to promote health (WHO 2003)

Service level	Access measure		Level of health	7		
		Needs met	concern			
No access (quantity	More than 1000m or	Consumption – cannot be assured	Very high			
collected often	30 minutes total	Hygiene – not possible (unless				
below 5 l/c/d)	collection time	practised at source)				
Basic access	Between 100 and	Consumption – should be assured	High			
(average quantity	1000m or 5 to 30	Hygiene – handwashing and basic food				
$\frac{1}{20}$	minutes total	hygiene possible; laundry/				
20 I/c/d)	confection time	carried out at source				
Intermediate access	Water delivered	Consumption – assured	Low			
(average quantity	through one tap on-	Hygiene – all basic personal and food				
about 50 l/c/d)	plot (or within 100m	hygiene assured; laundry and bathing				
	or 5 minutes total	should also be assured				
	collection time		X7 1	_		
Optimal access	water supplied	Consumption – all needs met	very low			
(average quantity	continuously	Hygiene – an needs should be met				
above)	continuousiy					
40010)					Γ -	Т
			10L/I	Drinking 🔪 🛛 🗄 🗄		
			201		EG	
			201		ji te	Ê
			30L Pers	onal washing	air 3	Ę; ⊐
		4	0L Was	shing clothes	aint	olu
		50L	Cle	aning home	jä 🦉	<u>_</u> 0
		60L	Gr	rowing food	20	ti ou
		70L	Sanitation	and waste disposal		las
			Business	(crops, livestock)		
	()	WHO 2013)	Garde	ens, recreation		

Per Capita Consumption

Country	Per Capita Consumption				
	(L/C/D)				
Malaysia	201				
Singapura	150				
Hong Kong	187				
Phnom Penh	160				
Bangkok	211				
Colombo	126				

Domestic Water Supply Consumption



Non-Revenue Water

Dil	State	Non-Revenue Water - NRW (%)									
DII	State	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	Melaka	30.1	29.7	26	25.1	23.8	22.1	21.4	19.3	19	19.6
2	Pulau Pinang	16.9	19.1	18.2	18.4	17.6	18.2	18.3	19.9	21.5	21.9
3	Johor	31.3	31.9	29.9	29.2	27.8	26.4	25.9	25.6	25.9	24.7
4	Terengganu	38	37.9	39.4	37	36.8	33.8	31	31	30	30.4
5	Perak	31.2	30.7	29.4	30.4	30.1	30.4	30.6	30.3	30.4	30.9
6	Selangor	34	32.5	32.4	32.3	33.1	34.5	33.6	32	32.2	31.5
7	Negeri Sembilan	50.5	49.2	43.4	44.6	40.4	36.3	35.9	34.8	32.7	32.6
8	Labuan	33.2	25.8	24.9	22	20.4	25.9	29.5	30.9	30.5	32.0
9	Pahang	52.9	59.9	55.3	56.2	54.2	52.7	53.1	52.8	47.8	47.5
10	Kedah	45	45	44.9	47.8	50.6	50.9	46.1	46.7	46.7	47.5
11	Kelantan	49.4	48.3	52.4	55.7	53.9	53.1	49.4	49	49.4	49.3
12	Perlis	41.7	44.7	51.3	59.8	66.4	62.4	55.8	56.3	60.7	63.1
13	Sabah	55.7	49.4	57.4	50.9	49.9	53.2	51.7	55.1	52.0	53.8
14	Sarawak	29.4	29.5	29	30.5	29.4	31.3	32	33.3	36.0	37.8
Sem. Malaysia & W.P Labuan		36.2	36.3	35.4	36.1	35.9	35.7	34.5	33.9	33.6	33.4
Malaysia		36.9	36.6	36.4	36.7	36.4	36.6	35.6	35.5	35.2	35.3

Non-Revenue Water



Percentage of Non-Revenue Water in Malaysia





Corporatization of State Water Supply Authorities. Benefits...

Corporatization advantages:-

- ✓ Provides easier access to finance
 - Able to identify and determine the operating and development costs

✓ Offers management independence

Flexibility in decision making

✓ Features commercial discipline

Water Services Reform In Malaysia

Journey of the water reform began

After WSIA

 Water services under Federal Government

- Water resources under State Government

Water Operators	Mix of state water departments, corporatized water boards and privatized concessionaires
Legislation	Each state enforced its own enactment
Standards	Different levels of service standards and materials
Capex Investment	Government Ioans & Commercial Ioans (Johor & Selangor) – short term financing

Before WSIA

of States

Water industry

under the power

Unable to address the funding and efficiency issues



Water Services Reform In Malaysia



Water industry will not sustain without transformation

- Put in place a clear policy and legal framework of the water services industry
- Need to restructure the water services industry
- Provide development of capital works to meet demand requirements
- Increase efficiency and effectiveness in service provisions by licensees
- Promote transparency and effective participation from stakeholders



Institutional Reform



Reform To Create A Sustainable Water Services Industry

continuous access to safe water at affordable rate





Water Reform Business Model

Creating A Sustainable Long Term Business Model & Holistic Value Chain





Regulating The Industry (1)



SPAN sets up a regulatory framework which brings together costs, performance, scope for efficiency improvements and consumer protection

Regulating The Industry (2)



Capex Works Implementation



Water Demand Management Strategies

- A Working Group has been set up to look into :
 ✓ water efficient product labelling scheme
 ✓ water efficiency audit for large consumers
- Members of the Working Group:
 - ✓ Government Agencies
 - ✓ Certification Agencies
 - ✓ State Water Operators
 - ✓ Professional Organizations
 - ✓Industry Associations
 - ✓ Customer Association

Water Demand Management Strategies

• Non-Revenue Water (NRW)

- Set as one of the main KPIs for water operators
- NRW management to be in a holistic manner
- Enforcement
- Use of Water Efficient fittings
 - Mandatory installation of dual-flush WC once the new Water Supply Rules come into force
 - Water Efficiency Labelling Scheme under development

• Water Efficiency Audit for large consumers

Need to implement water efficiency audit for large consumers e.g. Universities,
 School, Hotels, Commercial buildings, Government buildings, Hospitals, Mosques

Water Demand Management Strategies

• Waste water reuse and recycle

- Promote re-use and recycle of waste water for non-domestic purposes such as landscape irrigation and Industrial
- during planning stage, a regional STP reserve to be sited in new industrial area (green field) for ease of effluent reuse for non-domestic purposes.

Consumer awareness

- public campaign to educate consumers in water conservation
- Water Forum 🕨

Water Demand Management Strategies



1 star





THANK YOU