6th NATIONAL ENVIRONMENTAL HEALTH ACTION PLAN (NEHAP) CONFERENCE 2020

Delivering Excellent Services In Domestic Water Need

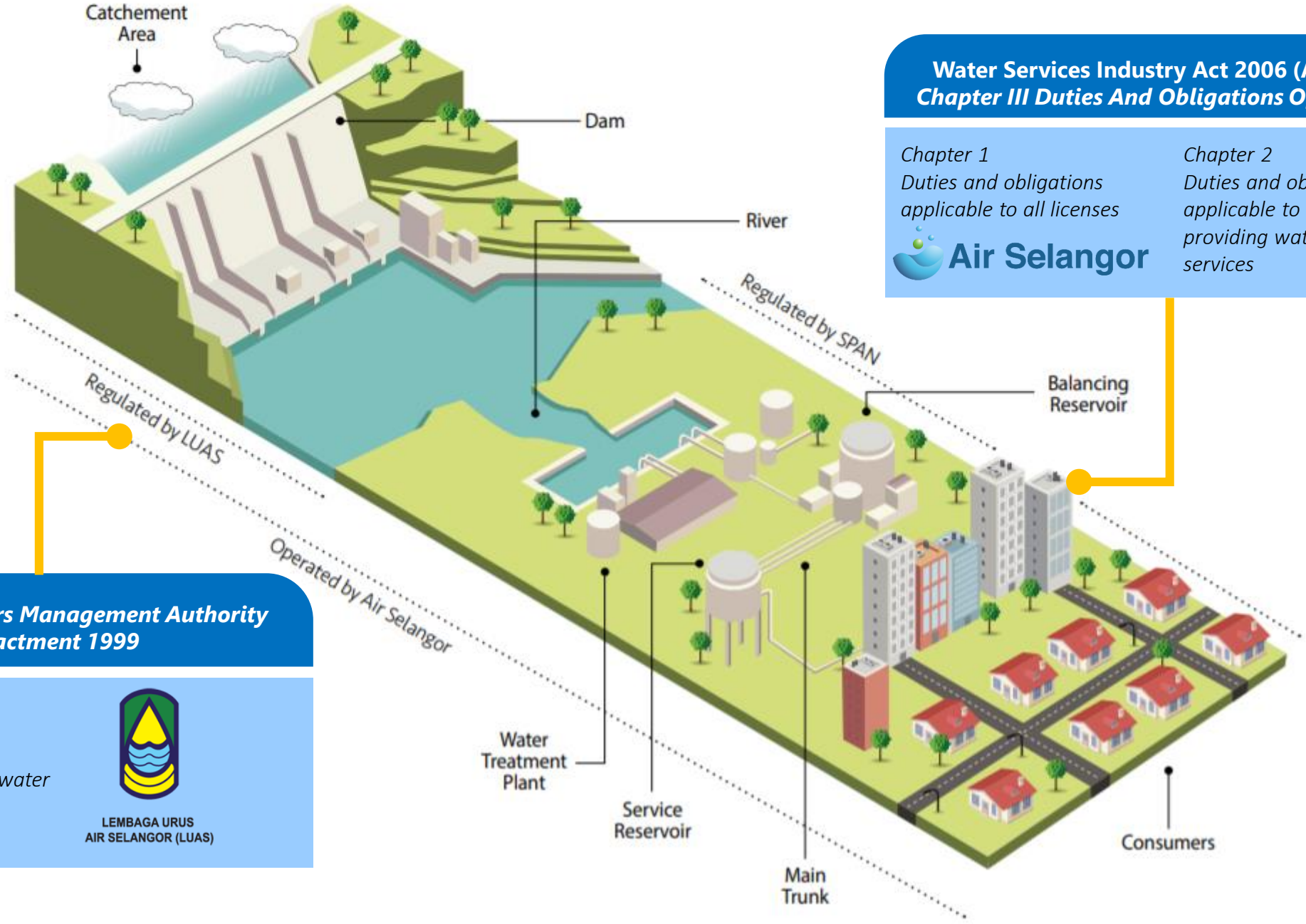
Zairi Zainuddin
Water Quality Department 2020 ©

AIR
SELANGOR


Air Selangor

Air Selangor

Sole Licensee on 13 September 2019



Water Services Industry Act 2006 (Act 655)
Chapter III Duties And Obligations Of Licenses

Chapter 1
Duties and obligations applicable to all licenses

Air Selangor

Chapter 2
Duties and obligations applicable to licenses providing water supply services

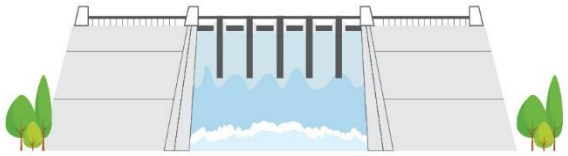
Selangor Waters Management Authority Enactment 1999

Chapter 5
Protection and development of water resources

LEMBAGA URUS AIR SELANGOR (LUAS)

Fact Sheet

Air Selangor



7 Dams

4 Off-River Storage Units

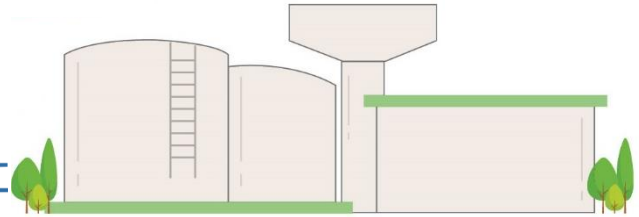
4
River Monitoring Stations (RMS)

34
Water Treatment Plants

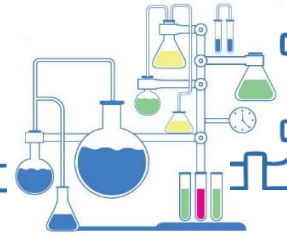
4,800
Workforce

11
Off-Plant Autonomous Chlorine Injection System (OACIS)

732
Pump Houses



1,601
Service Reservoirs



3
Accredited Regional Laboratory

29,044 km
Pipeline

40
Hybrid Distribution Water Quality Real-time Analyser (HYDRA)

1,275
Water Sampling Stations

1,236
Operational Vehicles

2.4M
Accounts

8.4M
Consumers

GLOBAL WATER AWARDS

PUBLIC WATER AGENCY OF THE YEAR

For the governmental agency or public body that made the biggest difference to water and wastewater service provision and utility management in 2019.

AIR SELANGOR, MALAYSIA

What is it?
A special purpose vehicle ultimately owned by the Selangor state government's investment arm MBI. It was set up in 2007 to be the single provider of water services in Selangor and the Federal Territories of Kuala Lumpur and Putrajaya following a restructuring of the water sector. It currently supplies around 8.6 million people.

What has it done?
Twelve years after it was founded, Air Selangor finally achieved its founding goal in 2019 by taking full control of the state's water supply. As it took on the mantle of sole provider, it demonstrated amply why this situation was deemed important by making major breakthroughs in the improvement of services for its millions of customers.

What makes it special?
- 2019 marked the culmination of more than a decade of planning to bring Air Selangor to full control of the region's water supply. The acquisition of the state's last remaining concessionaire in April reversed decades of fragmentation and placed the organisation in position to wield economies of scale and bring its service excellence to every single resident in the area.
- The group pioneered a new approach to "free water" in 2019. By refocusing subsidies on lower-income households, it secured a more stable financial base without compromising water supplies where they are needed most. With high-end new water infrastructure such as the 200,000m³/d Labohan Dagang water treatment plant coming online throughout the year, water provision in Selangor has been completely transformed for residents.
- The organisation made a stunning breakthrough in 2019 tackling the perennial problem of non-revenue water. Through the mass adoption of pipeline sensors and the replacement of more than 300,000 damaged and old meters, the group significantly exceeded its targeted figure and brough NRW down to a record low of 28.73%, saving an estimated 65 million litres a day of water.

GUJARAT WATER INFRASTRUCTURE, LTD, INDIA

What is it?
A state-owned body created to ensure bulk water supply through the establishment of new infrastructure in the arid state of Gujarat, India.

What has it done?
Gujarat joined Tamil Nadu as the hub of Indian desalination development in 2019, thanks largely to the efforts of Gujarat Water Infrastructure Ltd. (GWIL). As India developed into one of the quickest-growing markets for desal around, the financial confidence and careful contracting and collaboration shown by GWIL made desal pay off in ways that would not have been though possible, a huge boon for one of the world's most drought-affected regions.

What makes it special?
- The awarding by GWIL of four major desalination contracts with a combined capacity of 270,000m³/d around Gujarat to an Aquatech/Shapoorji Pallonji team showed that municipal desalination can make a difference in India, and gives the country a new string to its bow when it comes to dealing with the ongoing drought conditions savaging part of the country.
- With the four desalination projects to be rolled out under the private finance-supported Hybrid Annuity Model, the deals showed that major infrastructure need not mean a major capital burden on the public purse in India. It brought new investors into the Indian infrastructure market and positions the country's sector well for further PPP development at a crucial time for the country's water infrastructure.
- The Gujarat projects were issued to the market and finalised over the course of 2019 – one of the quickest ever procurement processes for projects of these type and scale, and a stunning breakthrough for contracting in a traditionally torpid project market. It is a hugely positive sign for the numerous future projects set to be rolled out to address water shortages.

MEKOROT, ISRAEL

What is it?
Israel's national water company, founded in 1937 and today responsible for bulk supply and management of resources across the country, as well as water supply to neighbouring areas under international agreements.

What has it done?
Last year saw Mekorot demonstrate its unique brand of excellence at both the macro and micro levels of water infra- ▸

SPONSORED BY: DUPONT

Malaysia's Air Selangor tackled state-wide consolidation, leakage management and tariff reorganisation – all at the same time

FEBRUARY 2020 GWI / 67

GLOBAL WATER AWARDS

PUBLIC WATER AGENCY OF THE YEAR 2019

Shortlisted for the award

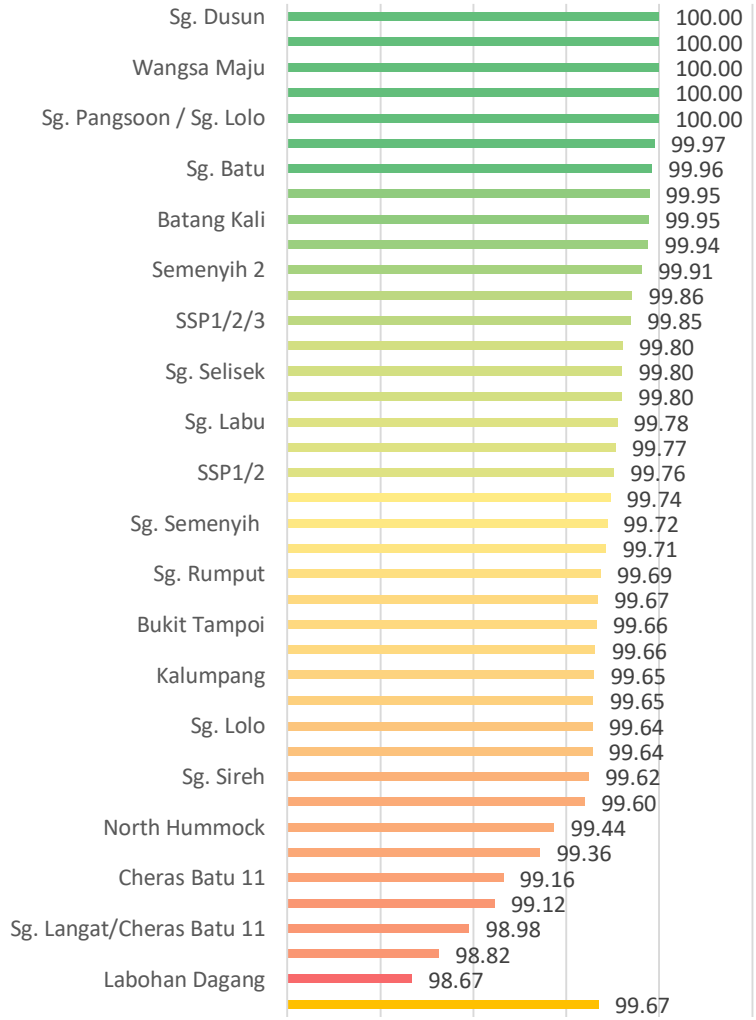
- **Air Selangor, Malaysia**
- Gujarat Water Infrastructure, Ltd, India
- Mekorot, Israel
- National Water Company, Saudi Arabia

Certificate of Accreditation for Laboratory
Sg Semenyih WTP (2004),
SSP2 WTP (2006),
Sg Labu WTP (2015)

IKM Laboratory Excellence Award (2019) for SSP2 WTP, Sg Semenyih WTP, Sg Labu WTP

Treated Water Compliance by Course

No	Course	2017	2018	2019	2020
1	Sg. Dusun	99.92	100	99.93	100.00
2	Kepong	99.74	99.9	100	100.00
3	Wangsa Maju	100	100	100	100.00
4	Sg. Pangsoon	99.78	100	99.91	100.00
5	Sg. Pangsoon / Sg. Lo	99.54	100	100	100.00
6	Langat 2	-	-	100	99.97
7	Sg. Batu	99.74	99.86	99.94	99.96
8	SSP3 (Rasa)	99.88	99.93	99.93	99.95
9	Batang Kali	99.84	99.91	100	99.95
10	SSP1/2/3,Wangsa Maj	98.88	99.8	99.79	99.94
11	Semenyih 2	-	-	99.86	99.91
12	SSP3 (Bukit Badong)	99.54	99.68	99.81	99.86
13	SSP1/2/3	99.78	99.82	99.89	99.85
14	SSP1	99.4	99.59	99.85	99.80
15	Sg. Selisek	99.95	100	100	99.80
16	SSP2	99.41	99.69	99.88	99.80
17	Sg. Labu	99.44	99.45	99.63	99.78
18	BRH	99.13	99.76	99.82	99.77
19	SSP1/2	99.52	99.71	99.86	99.76
20	Sg. Tengi	99.76	99.62	99.93	99.74
21	Sg. Semenyih	99.52	99.65	99.65	99.72
22	Sg. Langat	99.55	99.59	99.68	99.71
23	Sg. Rumput	99.49	99.68	99.69	99.69
24	Ampang Intake	99.52	99.84	99.84	99.67
25	Bukit Tampoi	99.14	99.56	99.69	99.66
26	Gombak	99.74	99.57	99.83	99.66
27	Kalumpang	99.63	99.83	99.66	99.65
28	Kuala Kubu Bharu	99.69	99.49	99.92	99.65
29	Sg. Lolo	99.8	100	99.9	99.64
30	Salak Tinggi	99.78	99.91	99.83	99.64
31	Sg. Sireh	99.08	98.84	99.61	99.62
32	Rantau Panjang	99.83	99.88	99.96	99.60
33	North Hummock	98.98	99.75	99.76	99.44
34	Bukit Nanas	99.59	99.56	99.83	99.36
35	Cheras Batu 11	99.53	99.79	99.92	99.16
36	Sg. Rangkap	99.25	99.43	99.69	99.12
37	Sg. Langat/Cheras Bat	98.65	99.47	99.64	98.98
38	Sg. Serai	99.23	99.37	99.49	98.82
39	Labohan Dagang	-	-	-	98.67
	Average	99.53	99.72	99.83	99.67

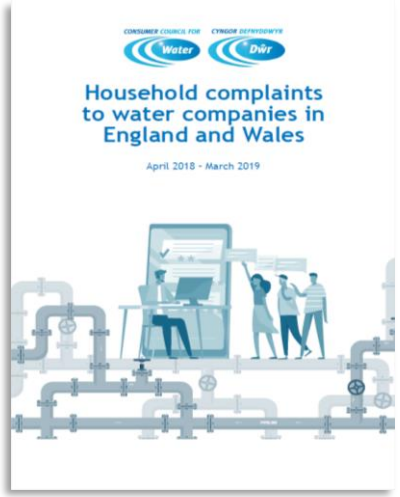


99.67%

Average Compliance

Consumer Complaint Index Ratio Comparison

Company	No. of Connections	No. Water Quality Related Complaints 2017 -2018	Complaint per 1,000 connections
Portsmouth Water*	295,000	162	0.55
Air Selangor	**2,334,224**	**1,740**	**0.75**
Bournemouth Water*	194,000	159	0.82
South East Water*	888,000	728	0.82
Southern Water	1,929,000	1,582	0.82
Dee Valley Water**	*No Data*	*No Data*	0.91
Anglian*	1,989,000	2,446	1.23
South Staffs & Cambridge Water**	*No Data*	*No Data*	1.42
South West Water*	773,000	1,701	2.20
Dwr Cymru*	1,402,000	4,472	3.19



* No of complaints calculated based on "*complaint per 1,000 connections* " data and "*No. of Connections* " reported in "*OFWAT's Service & Delivery Report January 2019* " and "*Household Complaints to Water Companies in England & Wales* "

** No data found in "OFWAT's Service & Delivery Report January 2019" and "Household Complaints to Water Companies in England & Wales"

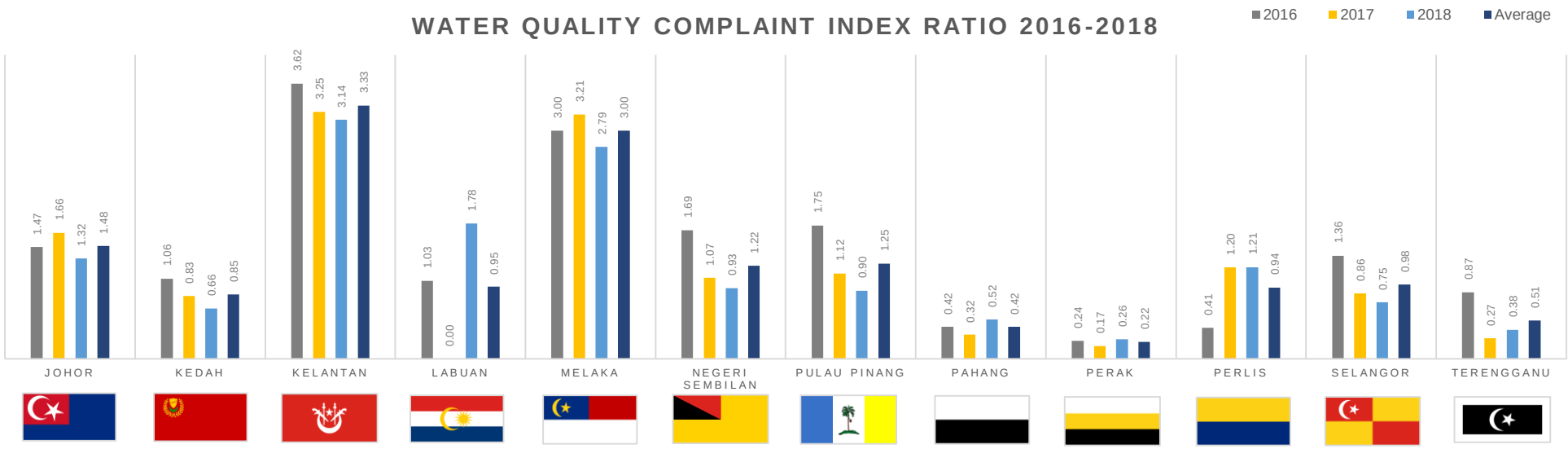
Portsmouth Water

Air Selangor

Bournemouth Water

anglianwater

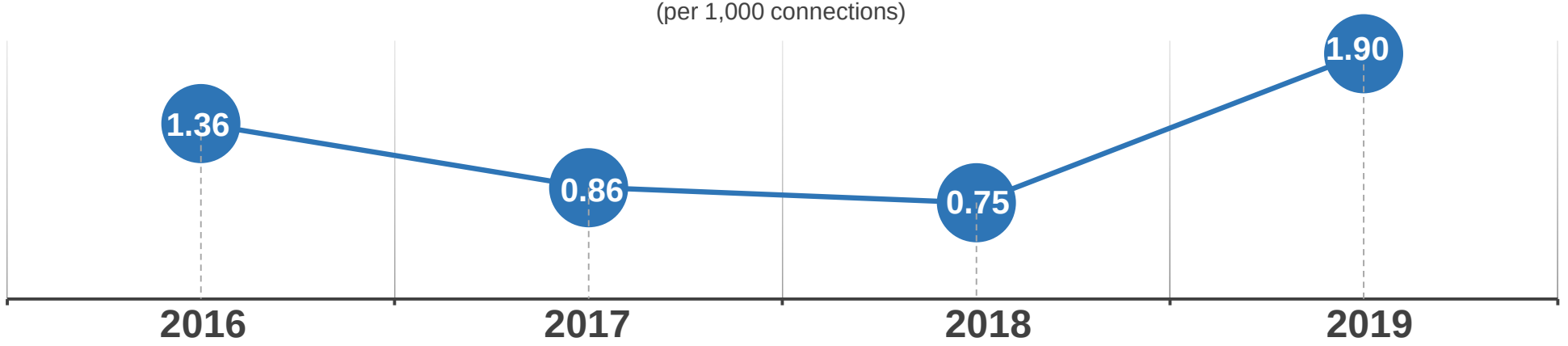
WATER QUALITY COMPLAINT INDEX RATIO 2016-2018



- Data extracted from *"Malaysia Water Industry Guide 2018"* published by MWA and *"Water And Sewerage Statistics 2019"* published by SPAN
- Data for Selangor based on Water Quality Department, Air Selangor's record.

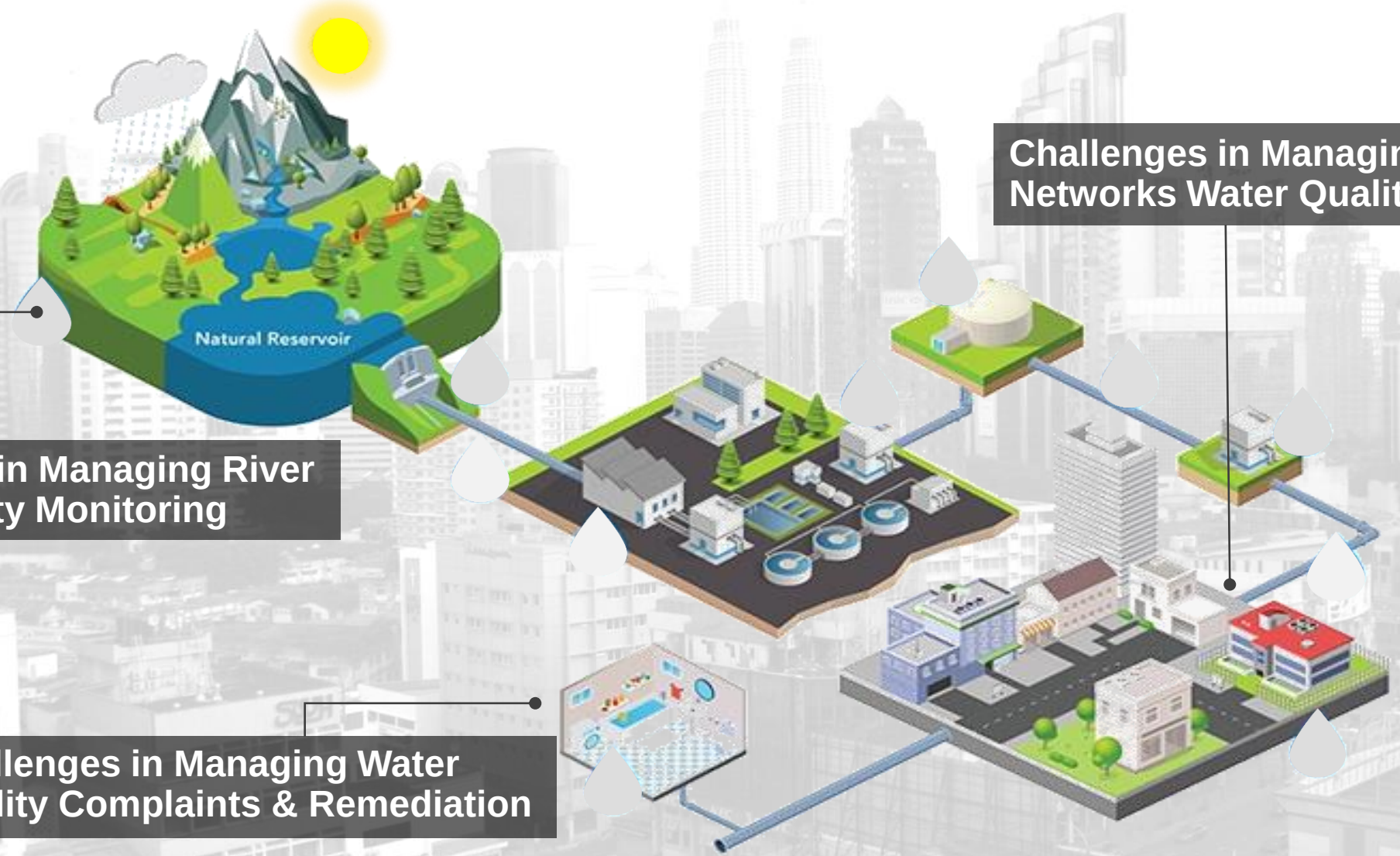
AIR SELANGOR WATER QUALITY COMPLAINT INDEX RATIO 2016-2019

(per 1,000 connections)




Air Selangor

Air Selangor



Challenges in Managing River Water Quality Monitoring

Challenges in Managing Distribution Networks Water Quality Surveillance

Challenges in Managing Water Quality Complaints & Remediation

A Great Concerns : Emerging Pollutants

Air Selangor

Isnin, 14 September 2020 - 6:19PM

BH ONLINE

BERITA SUKAN DUNIA HIBURAN BISNES RENCANA WANITA HUJUNG MINGGU BH KAPSUL COVID-19 PRN SABAH SEMUA SEKSYEN

BERITA » Nasional
Isnin, 7 September 2020 | 8:22pm

Cari Kata Kunci

Tubuh Unit Jenayah Alam Sekitar pantau pencemaran

Oleh Muhammad Yusri Muzamir
yusri.muzamir@bh.com.my

KUALA SELANGOR: Ken
Alam Sekitar untuk menar

Menteri, Datuk Seri Tuan I
itu akan dilaksanakan den
Malaysia (ATM), bagi men
membanteras kegiatan pe

Tuan Ibrahim berkata, cad
Seri Ismail Sabri Yaakob c

Selain itu, katanya, cadan
Negeri, Datuk Seri Hamza

"Unit ini dicadang untuk di
berkaitan air dan alam sek
terutama ekonomi dan kes
selepas melawat Loji Raw
pelbagai agensi berkaitan
air di sini, hari ini.

Mengulas lanjut, Tuan Ibra
terhadap Akta Kualiti Alam
antara lain bagi mengenal
sesi persidangan Dewan

astro AWANI

TERKINI ENGLISH MALAYSIA PRN SABAH DUNIA POLITIK VIDEO LAIN-LAIN

Gangguan bekalan air di tujuh wilayah

Astro Awani
Mac 17, 2020 23:03 MYT

THE STRAITS TIMES

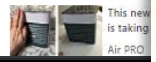
Sg Gong pollution: Water samples analysed, report out soon

New Straits Times 5/9/2020

QR-Patrol
Master your gua

1 2 3

YOU MAY LIKE
Ad taboola



This new
is taking
Air PRO

Isnin, 14 September 2020 - 6:53PM

BH ONLINE

BERITA SUKAN DUNIA HIBURAN BISNES RENCANA WANITA HUJUNG MINGGU BH KAPSUL COVID-19 PRN SABAH SEMUA SEKSYEN

BERITA » Wilayah
Jumaat, 4 September 2020 | 8:37am

Cari Kata Kunci

Penutupan LRA disebabkan berlaku pencemaran air mentah disyaki berpunca daripada tindakan premis perindustrian di kawasan Sungai Gong yang melepaskan sisa seakan pelarut ke sungai. - Foto FB Air Selangor

Loji rawatan Air Selangor, Rantau Panjang masih ditutup

Oleh Ruwaida Md Zain
bhnews@bh.com.my

Share Tweet

SHAH ALAM: Loji Rawatan Air (LRA) Sungai Selangor Fasa 1, Fasa 2, Fasa 3 dan Rantau Panjang yang dihenti tugas sejak pagi semalam akibat pencemaran sumber air mentah masih belum beroperasi setakat 6.30 pagi ini.

Ketua Komunikasi Korporat Pengurusan Air Selangor Sdn Bhd (Air Selangor), Elina Baseri, berkata berkata pencemaran masih lagi dikesan di muka sauk loji-loji berkenaan dan kini berada pada tahap satu TON.

Isnin, 14 September 2020 - 6:12PM

BH ONLINE

BERITA SUKAN DUNIA HIBURAN BISNES RENCANA WANITA HUJUNG MINGGU BH KAPSUL COVID-19 PRN SABAH SEMUA SEKSYEN

BERITA » Nasional
Rabu, 9 September 2020 | 6:38pm

'Bahan cemar Sung pengguna'

Oleh Suzalina Halid
suzalina@bh.com.my

KUALA LUMPUR: Bahan cem
berada dalam air minuman ker
individu yang meminumnya.

Pengarah Bahagian Kualiti Ala
Mohamed @ Ibrahim, berkata
cemar itu daripada kategori ya

Katanya, secara umum bahan
yang dikhuatiri boleh mendatar

"Kami sudah menyerahkan kep
namun tidak boleh dedahkan k

"Namun secara umumnya, bah
ditemui dan yang pernah juga
umumnya ia adalah bahan kim
dihubungi BH, hari ini.

Pada masa sama, Nazarudin
dan jika ia melepasi tahap terte

"Air minuman yang berbau ada
asing dalam air berkenaan, "

Exhibitions R.AGE mStar StarProperty iBilik StarCherish StarCarsifu StarSearch myStarjob Kuali Kuntum SuriaFM 988FM dimsum.entertainment

TheStar

Environmental crime unit to be set u Tuan Ibrahim

Published on 7 Sep 2020 9:09:58 PM

Share

An environmental crimes unit will be set up soon to tackle illegal
Man.

The Environment and Water Minister said that at his visit to the A
restoration efforts to affected households in the Klang Valley on
police and the armed forces to protect precious resources from

Separately, Tuan Ibrahim said water supply is expected to be fully

Read more at https://bit.ly/2ZePtGA

WATCH MORE: https://thestartv.com/c/news
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Keywords:
tuan ibrahim tuan man , environment and water ministry , environmental crimes unit , sungai gong , sungai selangor, news, malaysia, water supply

Front. Environ. Sci. Eng. 2017, 11(1): 6
DOI 10.1007/s11783-017-0897-7

VIEWS & COMMENTS

Microplastics pollution and reduction strategies

Wei-Min Wu (✉)[1], Jun Yang[2], Craig S. Criddle[1]

1 Department of Civil and Environmental Engineering, William & Cloy Codiga Resource Recovery Center, Center for Sustainable Development & Global Competitiveness, Stanford University, Stanford, CA 94305-4020, USA
2 School of Chemistry and Environment, Beihang University, Beijing 100191, China

Abstract Microplastic particles smaller than 5 mm in size are of increasing concern, especially in aquatic environments, such as the ocean. Primary source is microbeads (< 1 mm) used in cosmetics and cleaning agents and fiber fragments from washing of clothes, and secondary source such as broken down plastic litter and debris. These particles are mostly made from polyethylene (PE), polypro... terephthalate ... diverse marin... oyster, shrimp... via several pa... pollution shou... subsequently ... and remediati... biodegradatio... microbial bio... pollutants, su... conditions.

river, lake and the ocean. A recent report in *Science* indicates that approximately 0.48–1.27 million tons of plastic waste enters ocean annually and the introduction of plastic into the ocean is increasing at an astonishing rate, with an estimated doubling time of 10 years [1]. The plastic debris in the open ocean was estimated up to 3070 sites and widespread to tens of kilometers [2]

Keywords ... mental polluti...

myMetro

UTAMA MUTAKHIR GLOBAL ARENA RAP/RAPXTRA BISNES METROTV COVID-19 PKP PKS AGRO SPEKTRUM

AKADEMIA #ITMETRO NUANSA SANTAI P&P DEKOTAMAN WM ADDIN RENCANA SIHAT XPRESI VROOM GALERI INFOGRAFIK

Hapuskan pencemaran plastik

Share Tweet

MyMetro > Nuansa

SUNGAI Skudai tercemar dengan sampah sarap.

Nor 'Asyikin Mat Hayin
asyikin.mat@hmetro.com.my

Setiap tahun tanggal 5 Jun, Hari Alam Sekitar Sedunia akan disambut serentak di seluruh dunia dengan temanya tersendiri yang ditetapkan oleh Program Alam Sekitar Pertubuhan Bangsa-Bangsa Bersatu (UNEP).

Mutakhir

- Rich Estranged mahu jadi wakil rakyat

Limnol. Rev. (2017) 17, 2: 97 - 107
DOI 10.1515/limre-2017-0010

DE GRUYTER OPEN

Pharmaceutical pollution of aquatic environment: an emerging and enormous challenge

Piotr Rzymski[1], Agnieszka Drewek[2], Piotr Klimaszyk[2]

[1]Department of Environmental Medicine, Poznań University of Medical Sciences, Rokietnicka 8, 60-806 Poznań, Poland, e-mail: rzymskipiotr@ump.edu.pl (corresponding author)
[2]Department of Water Protection, Adam Mickiewicz University, Umultowska 89, 61-614 Poznań, Poland, e-mail: pklim@amu.edu.pl

Abstract: The global use of pharmaceuticals is on the systematic rise and leads to contamination of surface waters with xenobiotic compounds with a wide range of bioactivity. Waters that receive urban and medical effluents are particularly threatened. The presence of pharmaceuticals in these ecosystems can lea... the identification and qu... monitoring programme... exceeding environmenta... the fate of these compou...

Key words: pharmaceut...

Water pollution ... lated to the dischar... and the dispersion ... of human activities...

Laman Portal Rasmi
PROGRAM
PERKHIDMATAN FARMASI
KEMENTERIAN KESIHATAN MALAYSIA

Bahasa
Awam

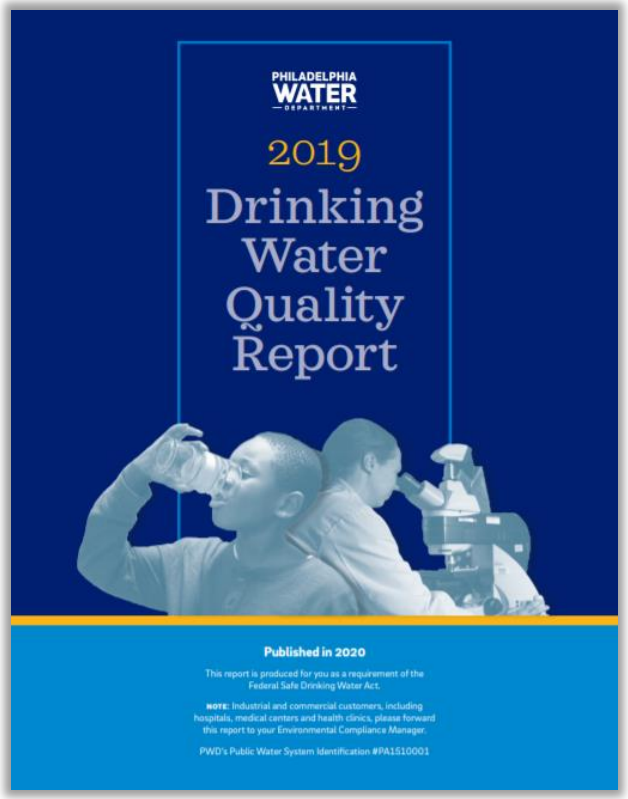
PROFIL

PERKHIDMATAN
DOKUMEN & MEDIA
INFORMASI
LEMBAGA FARMASI
HUBUNGI KAMI

Laman depan » Soalan Lazim

Bagaimanakah cara pembuangan ubat yang betul?

Pembuangan ubat ke dalam sumber air melalui sinki atau tandas boleh menyebabkan kesan pencemaran alam sekitar. Untuk makluman, loji kumbahan tidak berupaya merawat sisa kimia dalam air kumbahan, dan ini boleh menyebabkan pencemaran sistem pengairan. Selain itu, sisa ubat-ubatan yang mengandungi bahan kimia larut air boleh memasuki sistem pengairan dan seterusnya membahayakan hidupan akuatik.Oleh yang demikian, pesakit dinasihatkan agar tidak membuang ubat-ubatan berlebihan atau ubat-ubatan yang telah luput ke dalam sumber air, sebaliknya pesakit disarankan agar memulangkan semula ubat-ubatan tersebut ke hospital atau klinik kesihatan kerajaan yang berdekatan agar pelupusan ubat boleh dilakukan dengan cara yang betul.

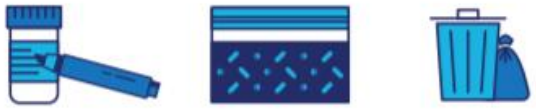


Pharmaceuticals and Source Water

Pharmaceuticals get into drinking water because people use both prescription and over-the-counter medications. Only a portion of these substances is absorbed into the bloodstream. The rest is excreted by the body, making its way through wastewater treatment plants and back into the waterways that serve as our drinking water sources. Pharmaceuticals can also enter the waterways through the practice of improper disposal methods, such as flushing unused or expired medications down the toilet.

Everyone can help keep unused pharmaceuticals out of the water supply by paying attention to how to dispose of unused medications. The Drug Enforcement Agency (DEA) sponsors national take-back programs in coordination with State and local law enforcement agencies. To find out about future take-back events, visit DEA's website at www.deadiversion.usdoj.gov/drug_disposal/takeback/.

How To Properly Dispose of Your Medications At Home!



1. Protect Your Info
Peel off the label, or cross out all your personal information with a marker.

2. Seal the Meds
Put the pills or liquids in another container, then cover with items like coffee grounds or kitty litter.

3. Trash It!
Toss sealed meds in your household trash.

Clean Water Begins and Ends With You!

Don't Pollute!

Water that enters our storm drains often flows directly to our local streams and rivers. Do your part to help protect our waterways:

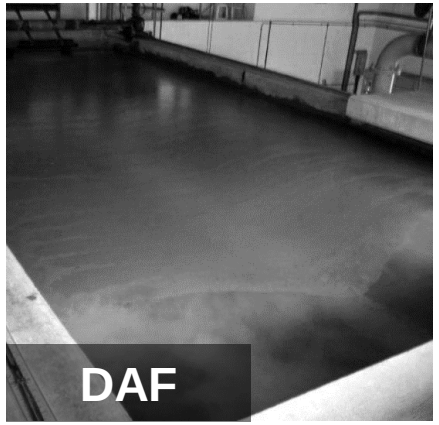
- Always recycle or dispose of household hazardous wastes properly.
- Don't pour motor oil, antifreeze or other toxic materials down storm drains, which connect to the city's sewer system.
- Don't flush paint thinners, insect sprays, herbicides and other harmful chemicals down the toilet or put them down the sink.

Contact the Streets Department to get a schedule of their Household Hazardous Materials Drop-off Events where you can dispose of these materials safely without polluting your drinking water supply.

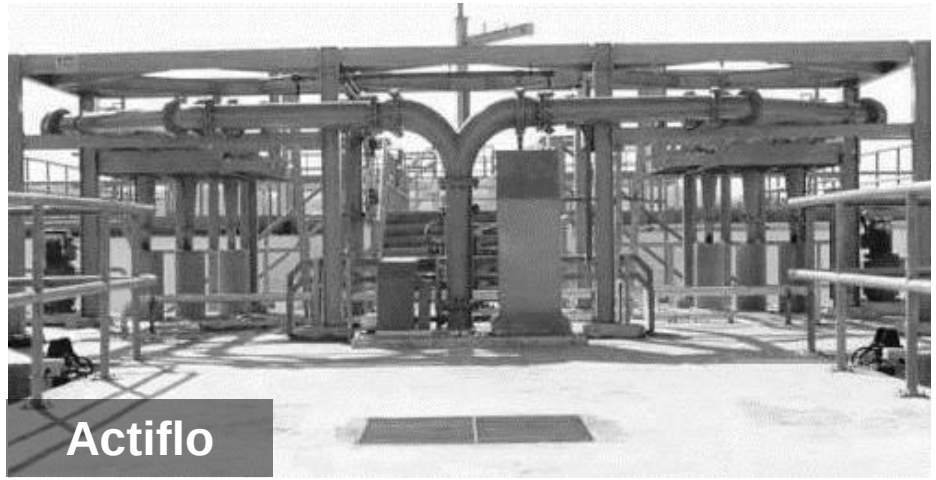
Don't flush wipes, whether made from natural or synthetic materials, down the toilet because they do not instantly dissolve like toilet paper. **In homes, wipes can cause interior pipes to clog and sewage to back-up into homes or the street.**

It is also important NOT to discard rubber gloves, masks and any other litter onto streets or sidewalks because they can end up in our local waterways or at our wastewater treatment plants where they can clog the infrastructure. All litter and waste should be properly discarded into a trash can.


Konvensional


DAF


Membrane


Actiflo

Sg Damansara

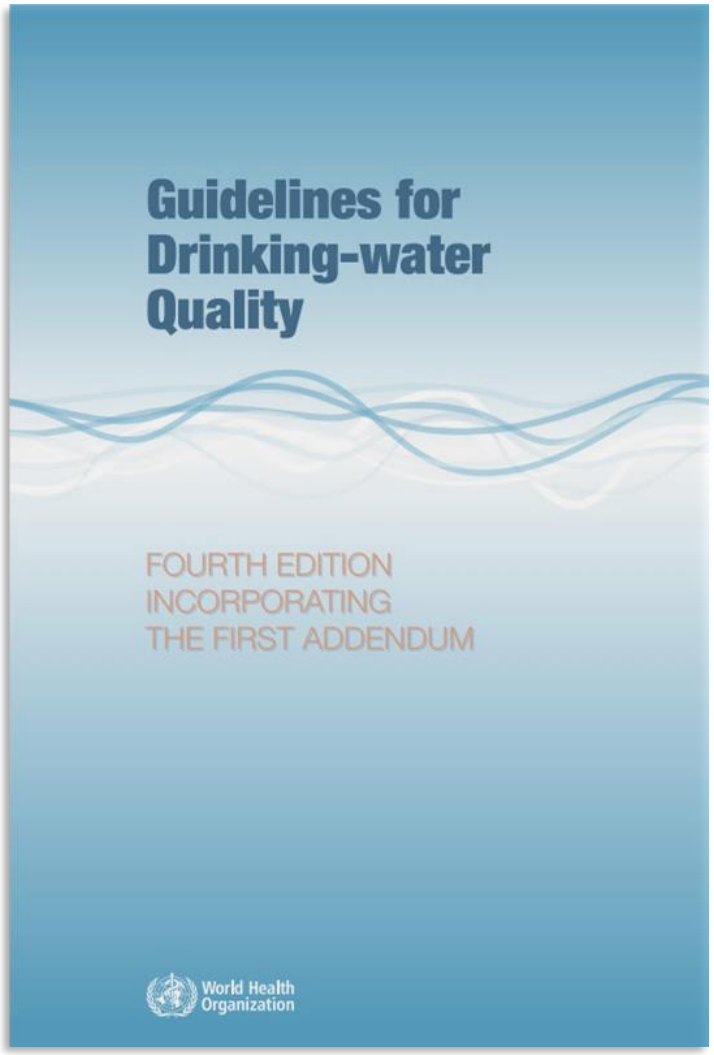
Sg Damansara flows from Sungai Buloh to Shah Alam. It used to be a source of raw water for the Bukit Jelutong Water Treatment Plant which was closed in 1995

Loji Rawatan Air Bukit Jelutong

Bukit Jelutong Water Treatment Plant
Built in 1963 and closed in 1995 because water sources from Sg Damansara were polluted (Class IV River)

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

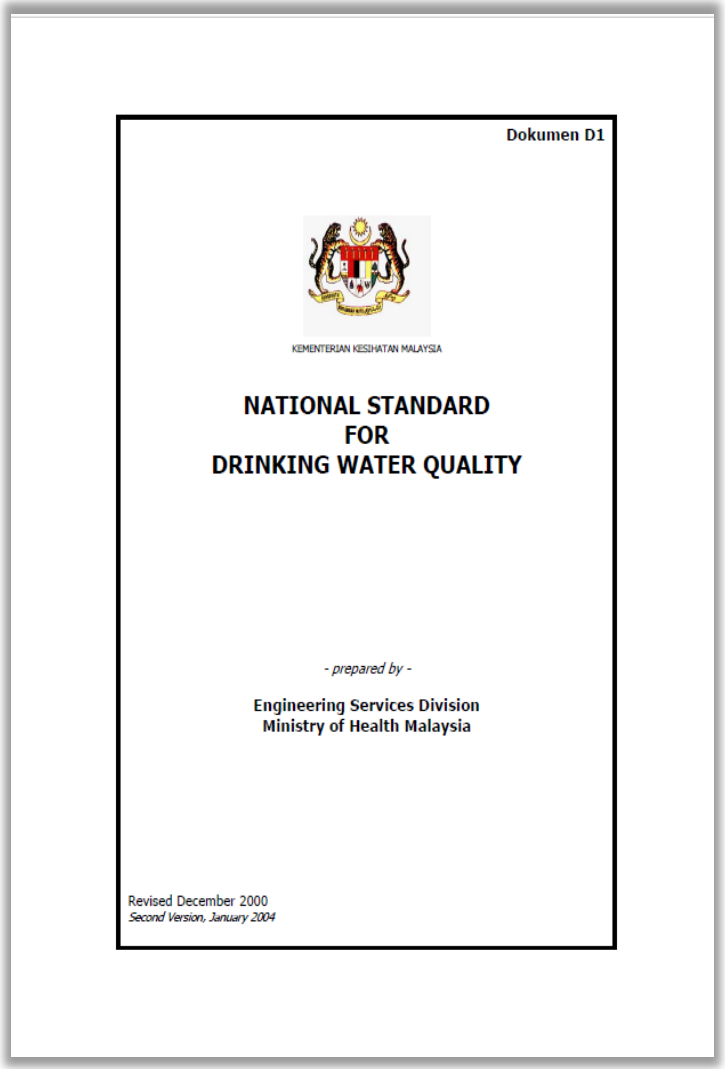


“Safe drinking-water, as defined by The Guidelines, ***does not represent any significant risk to health*** *over a lifetime of consumption, including different sensitivities that may occur between life stages.”*

Guidelines For Drinking-Water Quality 4th Edition

“ *Drinking water must be **clear, and does not have objectionable taste**, **colour and odour**. Pleasant to drink and **free from all harmful organisms**, **chemical substances and radionuclides in amounts**, which could constitute a hazard to the health of the consumer* ”

National Standard For Drinking Water Quality
Ministry of Health Malaysia


Dokumen D1

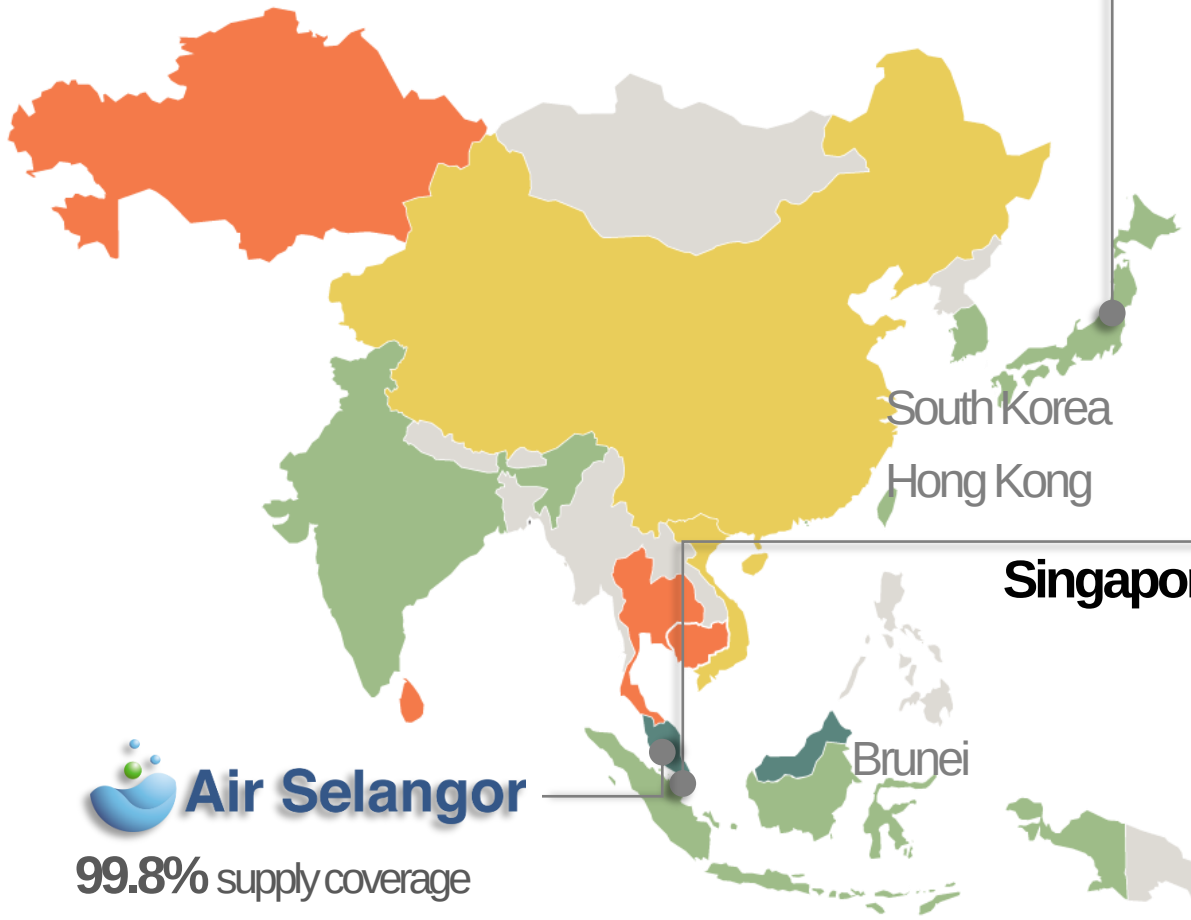
KEMENTERIAN KESIHATAN MALAYSIA

NATIONAL STANDARD
FOR
DRINKING WATER QUALITY

- prepared by -

Engineering Services Division
Ministry of Health Malaysia

Revised December 2000
Second Version, January 2004



Japan

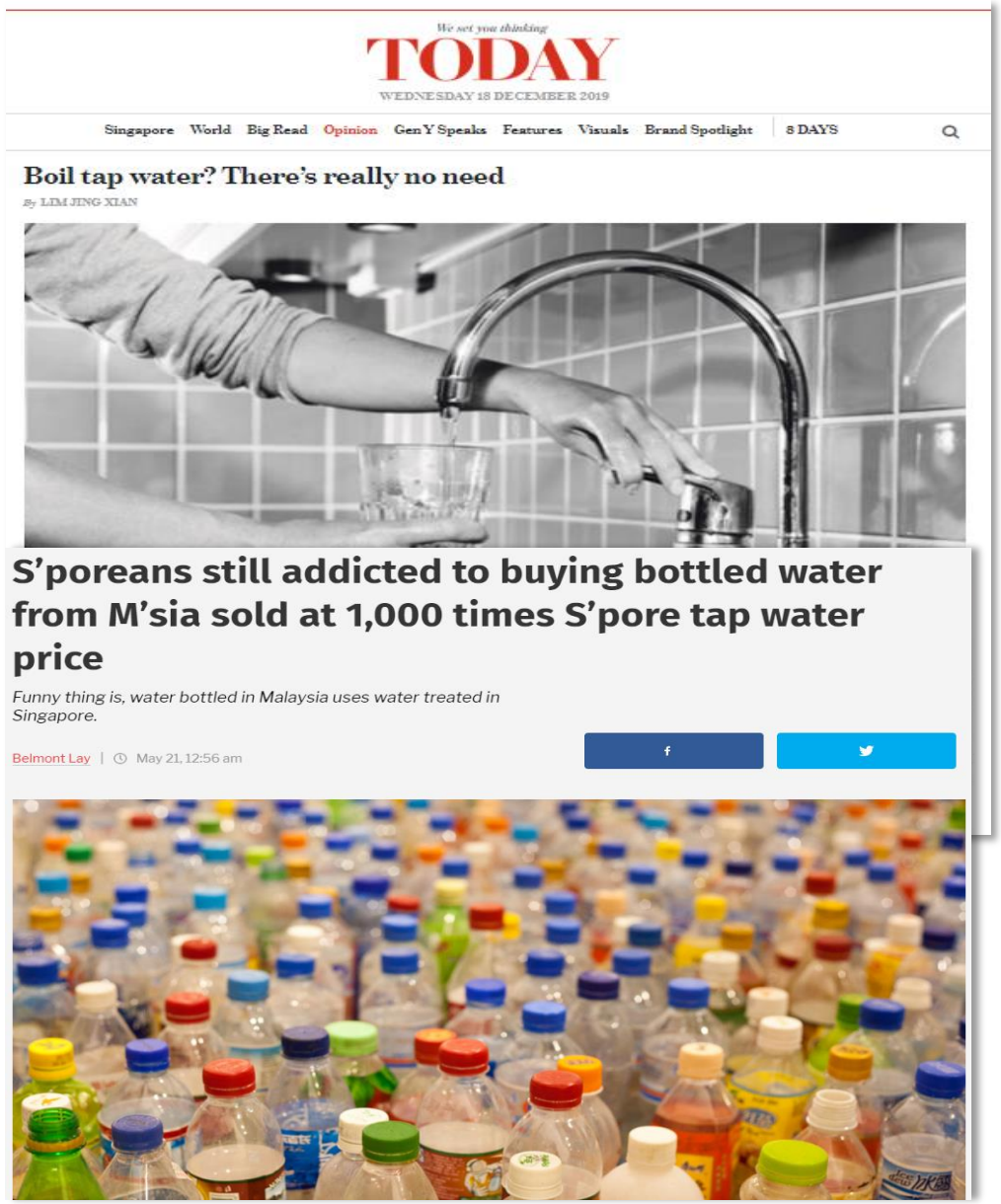
98% supply coverage
320 liter per day per capita
38% drink water from tap
32% use water purifiers
30% drink bottled water

Singapore

100% supply coverage
143 liter per day per capita
20% still boil water
24% bottled water expenditure increase 2016

Air Selangor

99.8% supply coverage
232 liter per day per capita as at Dec 2019
73% consumed tap water*
27% drink bottled water*



We set you thinking

TODAY

WEDNESDAY 18 DECEMBER 2019

Singapore World Big Read Opinion GenY Speaks Features Visuals Brand Spotlight 8 DAYS

Boil tap water? There's really no need

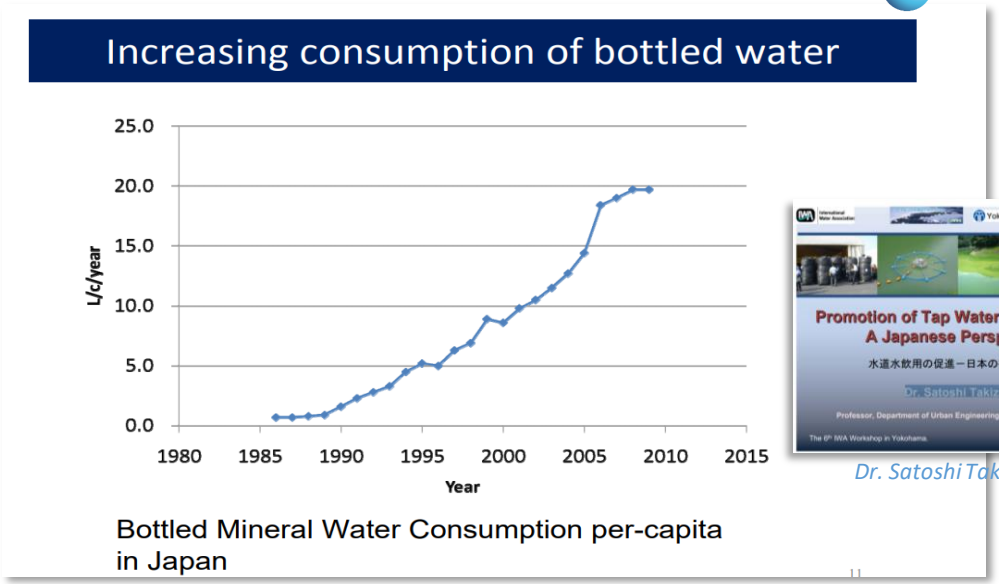
By LIM JING XIAN

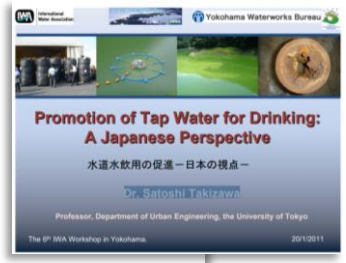
S'poreans still addicted to buying bottled water from M'sia sold at 1,000 times S'pore tap water price

Funny thing is, water bottled in Malaysia uses water treated in Singapore.

Belmont Lay | May 21, 12:56 am

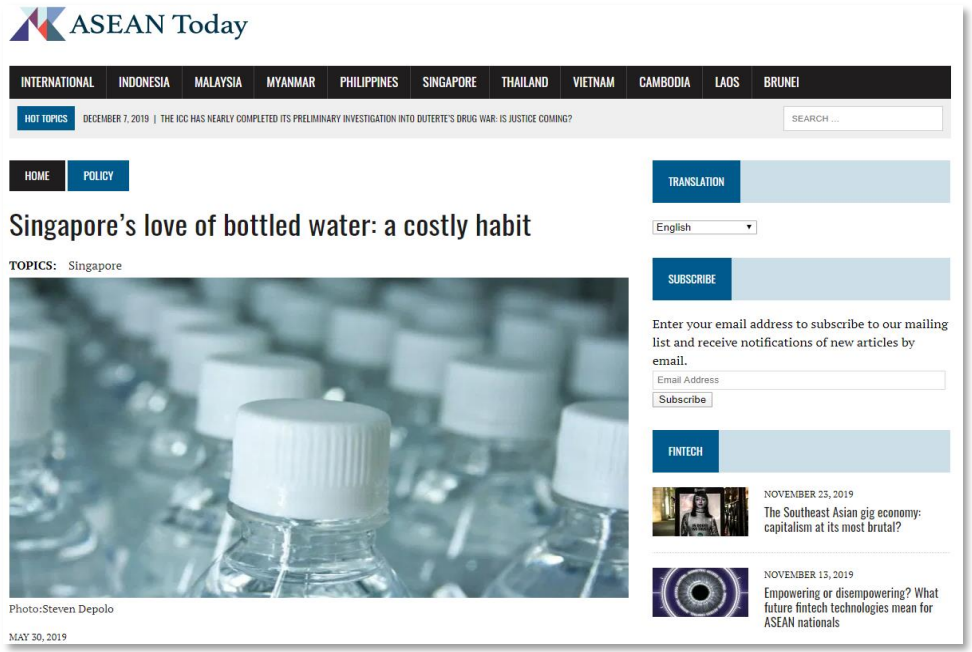
Source: https://mothership.sg/2019/05/singapore-consumers-buy-bottled-water/





Dr. Satoshi Takizawa

https://www.todayonline.com/commentary/boil-tap-water-theres-really-no-need



ASEAN Today

INTERNATIONAL INDONESIA MALAYSIA MYANMAR PHILIPPINES SINGAPORE THAILAND VIETNAM CAMBODIA LAOS BRUNEI

HOT TOPICS DECEMBER 7, 2019 | THE ICC HAS NEARLY COMPLETED ITS PRELIMINARY INVESTIGATION INTO DUTERTE'S DRUG WAR: IS JUSTICE COMING? SEARCH ...

HOME POLICY

Singapore's love of bottled water: a costly habit

TOPICS: Singapore

Photo:Steven Depolo

MAY 30, 2019

TRANSLATION English

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https://www.aseantoday.com/2019/05/singapores-love-of-bottled-water-a-costly-habit/

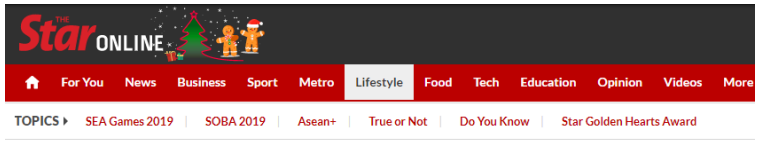
Air Selangor

Goody Feed Singapore | Informative Entertaining Meaningful

Travel

HERE'S THE ANSWER TO WHETHER M'SIA TAP WATER IS SAFE TO CONSUME OR NOT

By **Goody Feed Team**



The case for tap or bottled water

HEALTH

Sunday, 26 Feb 2012
12:00 AM MYT

By **TAN SHIOW CHIN**

Bottled drinking water has become quite commonplace nowadays, but is drinking it healthier than water from the tap?

WITHOUT clean, safe, drinking water, a human being can only survive for a few days before dying.

Water forms, on average, about 60% of our body composition.

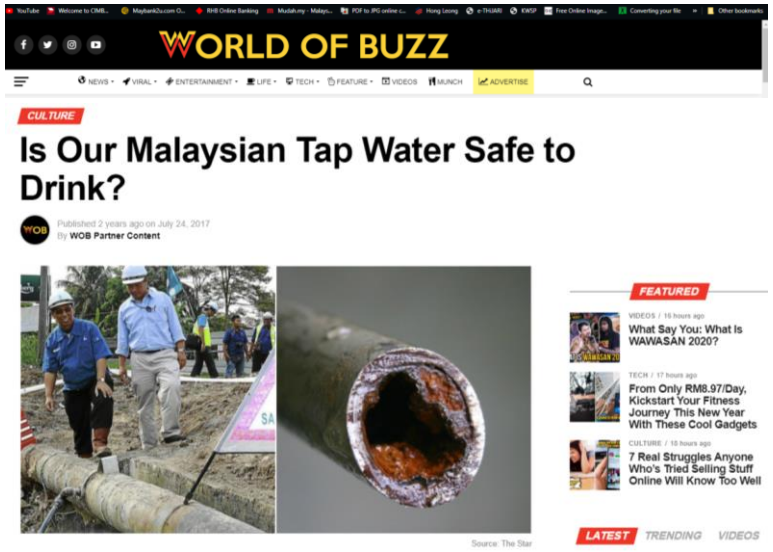
It performs various invaluable functions, including helping to maintain body temperature, forming the bulk of our blood, and serving as a medium to transport nutrients and wastes around our body.

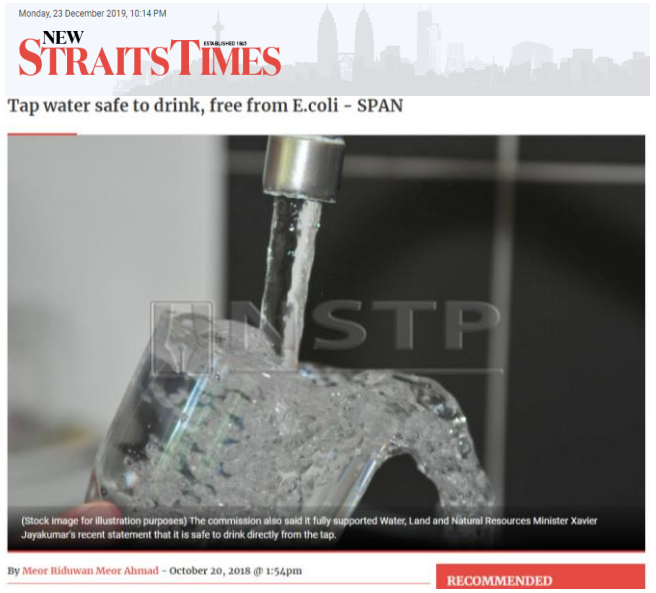
Human beings lose water on a daily basis through processes like urinating, sweating and breathing, among others.

Therefore, it is essential that these water losses be replaced in order to keep the body working well, and to maintain the proper balance of water within the human body.

This is mainly achieved through drinking sufficient quantities of water every day. (See Adequate amounts)

It's in the pipes





"The treated water supplied to Malaysians complies with the minimum quality standards set by the Health Ministry based on the water quality guideline issued by the World Health Organization (WHO)"

- SPAN Chief Executive Officer Datuk Mohd Ridhuan Ismail , The New Straits Times

"Based on our study, the level of the selected minerals were generally below the permitted levels. So, in terms of safety, tap water in Malaysia is safe"

- UPM Nutritionist Associate Professor Dr Azrina Azlan, The Star Online

Source:

https://www.nst.com.my/news/nation/2018/10/423023/tap-water-safe-drink-free-ecoli-span

https://www.thestar.com.my/lifestyle/health/2012/02/26/the-case-for-tap-or-bottled-water

https://goodyfeed.com/heres-the-answer-to-whether-msia-tap-water-is-safe-to-consume-or-not/

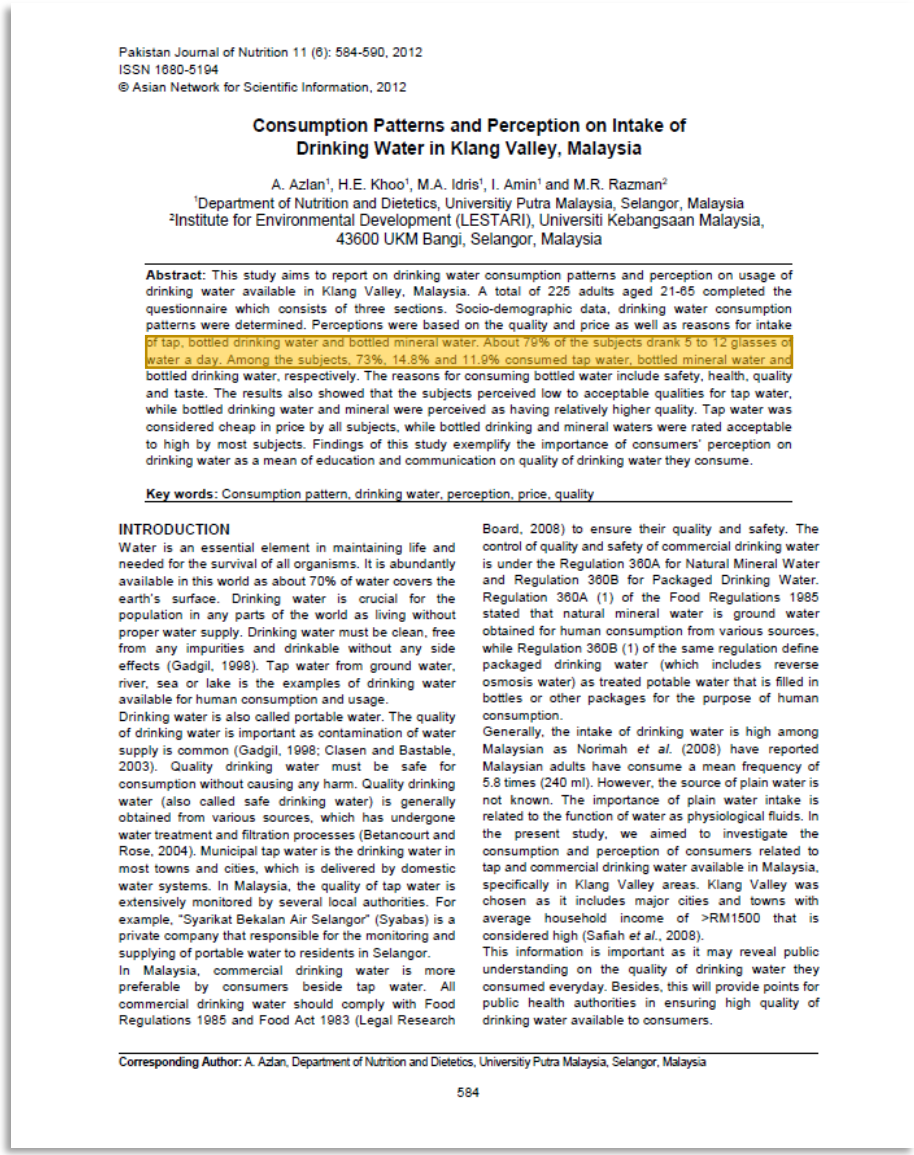
https://www.worldofbuzz.com/malaysian-tap-water-safe-drink/

73% consumed tap water

14.8% bottled mineral water

11.9% bottled drinking water

Conclusion: Quality drinking water is essential for maintaining good health. In general, the intake of water is adequate among the subjects studied with generous consumption of plain water. The selection of drinking water types and brands are based on individual choices. The perception and intake of subjects on drinking water quality and price also varied. Tap water was perceived as acceptable while bottled waters were regarded as high quality. The price for tap and bottled drinking water were considered low, while bottled mineral water was regarded high. Finding of this study exemplifies the important of nutrition education to emphasize on reads of nutritional information on label as a mean to educate consumers.



Pakistan Journal of Nutrition 11 (6): 584-590, 2012
ISSN 1680-5194

Consumption Patterns and Perception on Intake of Drinking Water in Klang Valley, Malaysia

A. Azlan[1], H.E. Khoo[1], M.A. Idris[1], I. Amin[1] and M.R. Razman[2]
[1]Department of Nutrition and Dietetics, Universitiy Putra Malaysia, Selangor, Malaysia
[2]Institute for Environmental Development (LESTARI), Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia

Abstract: This study aims to report on drinking water consumption patterns and perception on usage of drinking water available in Klang Valley, Malaysia. A total of 225 adults aged 21-65 completed the questionnaire which consists of three sections. Socio-demographic data, drinking water consumption patterns were determined. Perceptions were based on the quality and price as well as reasons for intake of tap, bottled drinking water and bottled mineral water. About 79% of the subjects drank 5 to 12 glasses of water a day. Among the subjects, 73%, 14.8% and 11.9% consumed tap water, bottled mineral water and bottled drinking water, respectively. The reasons for consuming bottled water include safety, health, quality and taste. The results also showed that the subjects perceived low to acceptable qualities for tap water, while bottled drinking water and mineral were perceived as having relatively higher quality. Tap water was considered cheap in price by all subjects, while bottled drinking and mineral waters were rated acceptable to high by most subjects. Findings of this study exemplify the importance of consumers' perception on drinking water as a mean of education and communication on quality of drinking water they consume.

Key words: Consumption pattern, drinking water, perception, price, quality

INTRODUCTION

Water is an essential element in maintaining life and needed for the survival of all organisms. It is abundantly available in this world as about 70% of water covers the earth's surface. Drinking water is crucial for the population in any parts of the world as living without proper water supply. Drinking water must be clean, free from any impurities and drinkable without any side effects (Gadgil, 1998). Tap water from ground water, river, sea or lake is the examples of drinking water available for human consumption and usage.

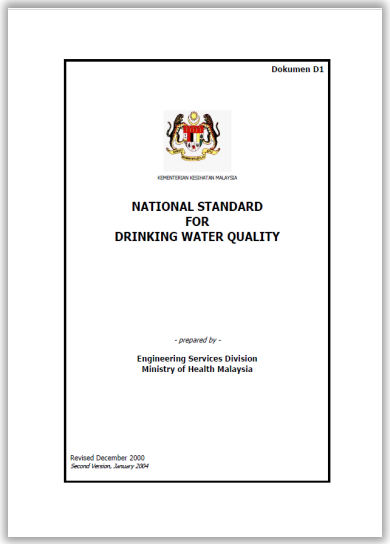
Drinking water is also called portable water. The quality of drinking water is important as contamination of water supply is common (Gadgil, 1998; Clasen and Bastable, 2003). Quality drinking water must be safe for consumption without causing any harm. Quality drinking water (also called safe drinking water) is generally obtained from various sources, which has undergone water treatment and filtration processes (Betancourt and Rose, 2004). Municipal tap water is the drinking water in most towns and cities, which is delivered by domestic water systems. In Malaysia, the quality of tap water is extensively monitored by several local authorities. For example, "Syarikat Bekalan Air Selangor" (Syabas) is a private company that responsible for the monitoring and supplying of portable water to residents in Selangor.

In Malaysia, commercial drinking water is more preferable by consumers beside tap water. All commercial drinking water should comply with Food Regulations 1985 and Food Act 1983 (Legal Research Board, 2008) to ensure their quality and safety. The control of quality and safety of commercial drinking water is under the Regulation 360A for Natural Mineral Water and Regulation 360B for Packaged Drinking Water. Regulation 360A (1) of the Food Regulations 1985 stated that natural mineral water is ground water obtained for human consumption from various sources, while Regulation 360B (1) of the same regulation define packaged drinking water (which includes reverse osmosis water) as treated potable water that is filled in bottles or other packages for the purpose of human consumption.

Generally, the intake of drinking water is high among Malaysian as Norimah *et al.* (2008) have reported Malaysian adults have consume a mean frequency of 5.8 times (240 ml). However, the source of plain water is not known. The importance of plain water intake is related to the function of water as physiological fluids. In the present study, we aimed to investigate the consumption and perception of consumers related to tap and commercial drinking water available in Malaysia, specifically in Klang Valley areas. Klang Valley was chosen as it includes major cities and towns with average household income of >RM1500 that is considered high (Safiah *et al.*, 2008).

This information is important as it may reveal public understanding on the quality of drinking water they consumed everyday. Besides, this will provide points for public health authorities in ensuring high quality of drinking water available to consumers.

Corresponding Author: A. Azlan, Department of Nutrition and Dietetics, Universitiy Putra Malaysia, Selangor, Malaysia



Dokumen D1

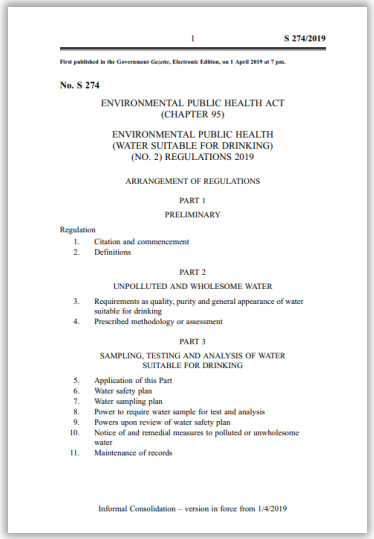
KEMENTERIAN KESIHATAN MALAYSIA

NATIONAL STANDARD FOR DRINKING WATER QUALITY

- prepared by -

Engineering Services Division
Ministry of Health Malaysia

Revised December 2000
Second Version, January 2004



1 S 274/2019

First published in the Government Gazette, Electronic Edition, on 1 April 2019 at 7 pm.

No. S 274

ENVIRONMENTAL PUBLIC HEALTH ACT
(CHAPTER 95)

ENVIRONMENTAL PUBLIC HEALTH
(WATER SUITABLE FOR DRINKING)
(NO. 2) REGULATIONS 2019

ARRANGEMENT OF REGULATIONS

PART 1
PRELIMINARY

Regulation
1. Citation and commencement
2. Definitions

PART 2
UNPOLLUTED AND WHOLESOME WATER

3. Requirements as quality, purity and general appearance of water suitable for drinking
4. Prescribed methodology or assessment

PART 3
SAMPLING, TESTING AND ANALYSIS OF WATER SUITABLE FOR DRINKING

5. Application of this Part
6. Water safety plan
7. Water sampling plan
8. Power to require water sample for test and analysis
9. Powers upon review of water safety plan
10. Notice of and remedial measures to polluted or unwholesome water
11. Maintenance of records

Informal Consolidation – version in force from 1/4/2019

Revision of Drinking Water Quality Standards in Japan
日本の水道水質基準の改正について

Hiroshi Wakayama, MHLW, Japan
厚生労働省　若山宏

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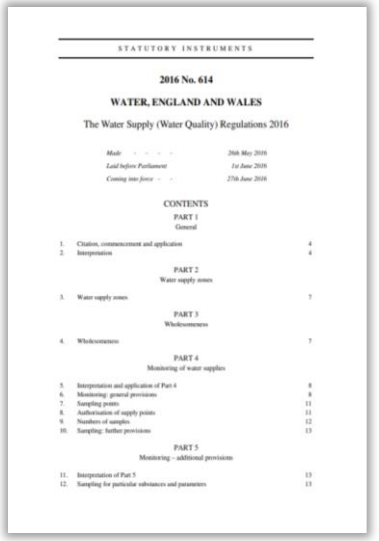

STATUTORY INSTRUMENTS

2016 No. 614

WATER, ENGLAND AND WALES

The Water Supply (Water Quality) Regulations 2016

Made - - - - 26th May 2016
Laid before Parliament 1st June 2016
Coming into force - - 27th June 2016

CONTENTS

PART 1
General

1. Citation, commencement and application 4
2. Interpretation 4

PART 2
Water supply zones

3. Water supply zones 7

PART 3
Wholesomeness

4. Wholesomeness 7

PART 4
Monitoring of water supplies

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6. Monitoring: general provisions 8
7. Sampling points 11
8. Authorisation of supply points 11
9. Numbers of samples 12
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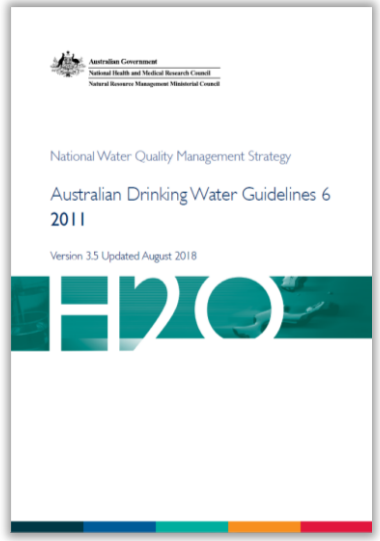
PART 5
Monitoring – additional provisions

11. Interpretation of Part 5 13
12. Sampling for particular substances and parameters 13



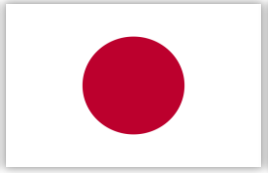
Australian Government
National Health and Medical Research Council
Natural Resource Management Ministerial Council

National Water Quality Management Strategy

Australian Drinking Water Guidelines 6
2011

Version 3.5 Updated August 2018

H2O

						
Turbidity	No guideline (1)	<5 NTU	< 5 NTU	< 2 Degree	< 5 NTU	< 4 NTU
Colour	No guideline (2)	15 TCU	< 5 Hazen	<5 Degree	< 15 Hazen	< 20 mg/L Pt/Co
Odour	No Guideline (3)	Unobjectionable	Unobjectionable	Not Abnormal	Unobjectionable	<1 at 25 °C dilution number
Taste	No Guideline (4)	Unobjectionable	Not Mentioned	Not Abnormal	Unobjectionable	<1 at 25 °C dilution number
Manganese	0.5 mg/l	< 0.1 mg/L	< 0.4 mg/L	< 0.4 mg/L	< 0.1 mg/L	< 0.05 mg/L
Iron	No guideline (5)	< 0.3 mg/L	No Guideline	< 0.3 mg/L	< 0.3 mg/L	< 0.2 mg/L
Aluminum	0.2 mg/l	< 0.2 mg/L	< 0.2 mg/L	< 0.2 mg/L	< 0.2 mg/L	< 0.2 mg/L
Total Coliform	Not mentioned	Not Detected	Not Mentioned	Not Mentioned	No Guideline	0 in 100 ml
E-Coli	Not mentioned	Absent in 100 ml	< 1 / 100 ml	Must Not Be Detected	0 in 100 ml	0 in 100 ml

(1) Desirable: Less than 5 NTU
(2) Desirable: 15 mg/l Pt-Co
(3) Desirable: Unobjectionable to consumers
(4) Desirable: Unobjectionable to consumers
(5) Desirable: Desirable: 0.3 mg/l

Sources:

https://www.pub.gov.sg/Documents/Singapore_Drinking_Water_Quality.pdf

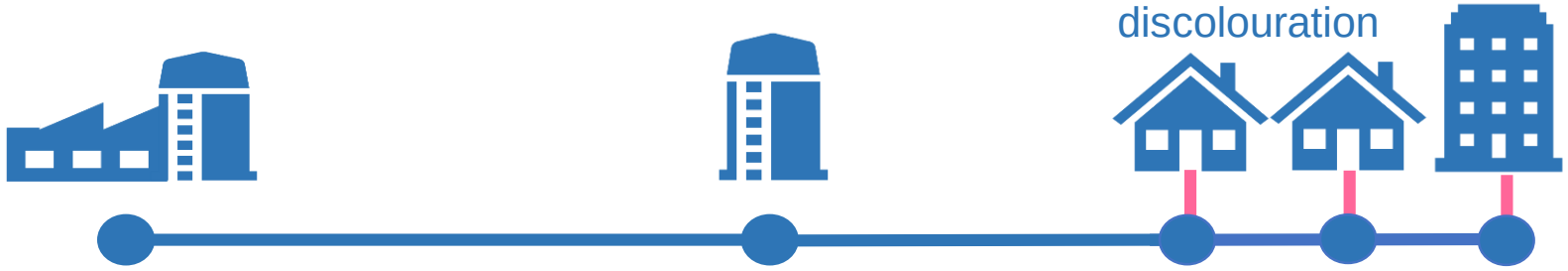
https://www.lenntech.com/who-eu-water-standards.htm

http://dwi.defra.gov.uk/consumers/advice-leaflets/standards.pdf

TRUST OUR TAP STRATEGY

- To supply treated water
- Comply with NSDWQ
- Up to meter point
- Compliance > 99.5% at supply course
- DWQI ≥ 80%

- Maintain internal plumbing system
- Ensure hygiene and cleanliness
- Clean internal tanks
- Flush upon water disruption
- Flush 5 minutes upon discolouration



TRUST OÜR TAP STRATEGY

21 BLUE COURSE
OP1 2020 - 2022 | **23%** Coverage

8 BLUE COURSE
OP2 2023 - 2025 | **52%** Coverage

4 BLUE COURSE
OP3 2025 - 2028 | **100%** Coverage

PROTECT

282 river surveillance points
15 river monitoring stations
160 sanitary survey
5 PAKAR
1 special forces & UAV
Continuous land-use profiling
Continuous pollution investigation

MONITOR

540 HYDRA Stations
1,834 Water Sampling Stations
8,800 Reservoir WQ Assess.
300,000 Sampling /year
Development of ARRAS
Continuous Complaint Management via CRIS

REMEDY

2,662 Reservoir Cleanings
25,800 Pipe Cleanings
67 OACIS Stations
9,253 POLIGON
SMART Flushing System

DIAGNOSE

3 Regional Laboratories
160,000 Laboratory Analysis / year
Finger Print Analysis

1 Mobile Laboratories
Pollutant Tracing

AIR SELANGOR DIGITAL DRIVE

VIDEO

Air Selangor

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