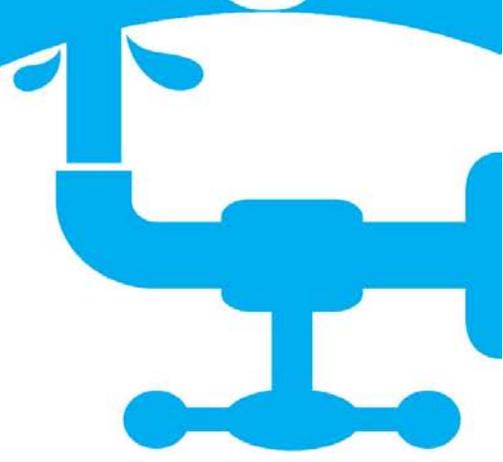


# Penstrukturan Semula

Industri Perkhidmatan Air Negara  
**-KAJIAN KES  
NEGERI KELANTAN**

National Water Services Industry  
**Restructuring**  
**-KELANTAN STATE  
CASE STUDY**



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## PART 1: KELANTAN WATER SERVICES SATISFACTORY STUDY

Complaints about unsatisfactory water services have led AWER to conduct field investigations to outline the condition of water services in Kelantan. Series of feedback sessions were held in many parts of Kelantan. Feedbacks were obtained from Kuala Krai, Temangan, Kota Bharu, Machang, Pasir Puteh, Jeli, Bachok, and Tanah Merah.

The cases highlighted by the Kelantanese can be summarised as below:

**i. No water supply connection**

There is no water supply connection at all. Such cases are examples of low coverage performance by Air Kelantan Sdn Bhd (AKSB).

**ii. Metered connection is available but there is no water supply**

Premises with metered connections do not have water supplied through them. This is another predicament. This is also deemed unfair to the people because premises with connected meters have minimum charges no matter if they have or do not have water supply.

**iii. Frequent disruption (unscheduled)**

Frequent disruption of water services in terms of daily, weekly and monthly disruption is rampant. This has caused unreliable water supply services.

**iv. 'Dirty' water supply / murky water / coloured water**

When people see treated water with the presence of colouring, they will define it as 'dirty' or murky or coloured water. Coloured water supply is prompting high usage of water filters among the people.

**v. Water supply with smell and many more**

There are cases where people complained that treated water has a smell. Such incidents should not take place as treated water should not have an odour under any circumstances. There are other issues also reported by the people such as bad customer service, water supply with air bubbles (increases meter reading but

less water used), usage of pumps to draw water from service mains and many more.

The Ministry of Health conducts periodic drinking water quality testing. Unfortunately, the use of fixed locations for water quality sampling is questionable as there is no random drinking water sampling before the meter to verify that the supplied water is of good quality. This is the main reason why the water quality supplied to people are always questioned.



## PART 2: EXTRACTING OWN SOURCE OF WATER

Water is basic need for humans. During our feedback sessions, the public also reiterated that they are willing to pay for the water bill as long as they can get clean water supply. However, water has fallen as a political tool for many and also affects the daily livelihood of Kelantanese.

AWER has collected information to estimate the cost for Kelantanese to develop own simple water supply system to obtain water resource to meet their basic needs. Among the types of water supply system developed by them, groundwater extraction system is more expensive because it needs a well system and pump system to be built.

### TUBEWELL

**Description** Tubewell are tube pipes placed vertically deep in soil through ‘boring’ process to extract groundwater. This method is for deep groundwater extraction (in confined aquifer).

**Cost estimation** Initial investment for a 100 feet tubewell is close to RM 1400 for boring process and the cost of tube pipes. The cost of boring 1 foot is about RM 10. Tube pipe cost is separately charged.

### WELL

**Description** This is a conventional groundwater extraction method. Precast concrete rings are placed to hold the soil from collapsing. This method is for shallow groundwater extraction (in unconfined or sometimes confined aquifers).

**Cost estimation** For this system, the cost is calculated based on the precast concrete rings (known as *kerek* in Kelantan). The labour cost to place each concrete ring is about RM 30 and the concrete ring costs between RM 25 (smaller diameter) to RM 30 (bigger diameter) each. If 10 concrete rings are placed, the cost will be around RM 600.

### ELECTRICITY POWERED WATER PUMP

<b>Description</b>	The pumps assist locals to extract groundwater faster. It is also known as 'engine' in Kelantan. This system will be connected to a water filter if necessary.
<b>Cost estimation</b>	The electrical pump cost between RM 300 to RM 500 and usually 2 to 3 pumps are used to extract water from wells. The monthly electricity cost for the pumps are estimated between RM 10 to RM 20 based on public feedback.

Once the public complete the well construction, if the dug well or tubewell does not have any groundwater resource or with water resource that is too murky, the entire expenditure to construct the well will go down the drain and they are forced to reinvest again. For those whom do not have any other alternative, expensive water filters are the choice. Cost of the water filters can be anything above RM 2000. The maintenance cost of these filters will be high as well due to poor quality of water.

For the areas which are closer to hills, public usually use the spring water as source of water. The water resources used are very much dependent on the type of the forest or hills that are available. In Kuala Krai, there was feedback that there is threat of Leptospirosis from the water source. This acute infectious disease is commonly known as Rat Urine Disease and can cause death if there is no early treatment. However, this group of people is risking their lives for water!

All water resources obtained by public through their own water supply system are not inspected by Ministry of Health (MOH). In other word, **the quality of water consumed by them is UNKNOWN**. Besides this, the growing demand for water will lead towards over-extraction of groundwater. This will cause serious drop in water table that might give impact to soil stability as well as environmental sustainability. There have been many examples of such situation throughout the world such as Indonesia, Thailand, China, India, Bangladesh, United State of America, Australia, etc.

Based on current water tariff in Kelantan, the monthly water bill for a family of 4 members is around RM 8.00 if their water consumption is about 20 cubic meter (m<sup>3</sup>). Even if we estimate the particular family consume 30 cubic meter (m<sup>3</sup>) of water monthly, the total cost is just about RM 15.50. This cost is much desired by the Kelantanese to obtain clean, safe, and continuous supply of water.



## PART 3: KELANTAN WATER SERVICES PERFORMANCE

Based on the 2008 Auditor General report, the drinking water quality **non-conformance** for Kelantan was 8.82% and classified as not satisfactory along with Pahang, Perlis and Sabah. In addition to that, all our recent feedbacks indicate that the Kelantanese are not satisfied with the water quality that is being supplied. This is mainly due to coloured and smelly water supply as well as no water supply at all.

**Table 1: Percentage of Population served with water supply for Kelantan, Sabah and Sarawak**

2007	<b>State</b>	<b>Percentage of Population served (%)</b>		
		<i>Urban</i>	<i>Rural</i>	<i>State average</i>
	Kelantan	55.5	52.1	53.0
	Sabah	99.0	52.0	76.0
	Sarawak	100.0	54.1	77.0
2008	<b>State</b>	<b>Percentage of Population served (%)</b>		
		<i>Urban</i>	<i>Rural</i>	<i>State average</i>
	Kelantan	56.3	53.2	54.2
	Sabah	99.0	52.0	76.0
	Sarawak	99.0	56.5	78.0
2009	<b>State</b>	<b>Percentage of Population served (%)</b>		
		<i>Urban</i>	<i>Rural</i>	<i>State average</i>
	Kelantan	57.7	54.7	55.7
	Sabah	99.2	52.3	76.3
	Sarawak	99.5	61.5	86.2
2010	<b>State</b>	<b>Percentage of Population served (%)</b>		
		<i>Urban</i>	<i>Rural</i>	<i>State average</i>
	Kelantan	57.9	56.1	57.0
	Sabah	99.5	58.4	79.0
	Sarawak	99.5	61.7	93.3

Source: Malaysia Water Industry Guide 2009, 2010 & 2011

Table 1 shows the statistical data of water supply coverage for urban, rural and state average in Kelantan, Sabah and Sarawak from year 2007 to year 2010. According to Malaysia Water Industry Guide 2011, average population served with water supply in Sabah, Sarawak and Kelantan for year 2010 are 79.0%, 93.3% and 57.0% respectively. This means the state of Kelantan has the worst water services coverage in Malaysia. In premises with coverage, availability of water supply is another issue.



## PART 4: SUGGESTION BY AWER

In April this year, a copy of “**National Water Services Industry Restructuring – The Truth**” report (ISBN 978-967-10394-0-3) published by AWER was given to all members of Parliament and states assemblymen. This report has given details of how WSIA will benefit water services industry.

**A common misunderstanding on WSIA regime is that, Federal Government will take over the water services operators / companies.** There is no such arrangement outlined under WSIA. Suruhanjaya Perkhidmatan Air Negara (SPAN) will be the national regulator for all water operators for services, economical and technical regulations. Secondly, the WSIA outlines asset-light model to ease the impact of water services infrastructure development to water tariff. Equitable tariff will benefit the people and the country’s growth.

The financial model and regulation model in WSIA will ensure quality of water services is improved and serve the people of Kelantan better. It was also acknowledged that, the Kelantan state government did highlight that there was no federal funding for water services in the past. However, this problem is being addressed via implementation of WSIA.

AWER urges Kelantan to transfer to WSIA regime as soon as possible as the first step towards enhancement of water services industry in Kelantan. The following steps that Kelantan has to initiate are:

- (i) Focus on Non-Revenue Water (NRW) reduction to below 35% by year 2020;
- (ii) Embark on pipe replacement projects to reduce deterioration of treated water quality as well as assisting NRW reduction;
- (iii) Embark on rural water supply projects – to develop smaller treatment plants to reduce piping network cost;
- (iv) Protection of water catchment areas – it is vital in ensuring cost of water treatment is kept as low as possible;
- (v) Upgrading and planting up water treatment plants – to cater growing demand for water supply in domestic sector as well as potential growth in commercial and industrial sectors; and
- (vi) Boost water supply reserve margin to a safe level.

AWER's suggestions can be easily carried out under the WSIA regime which has strong financial model for water services infrastructure development. The funding to improve water services in Kelantan is now available. It is up to Kelantan state government to utilise it for the betterment of Kelantanese welfare.



## PART 5: THE WAY FORWARD

The water quality of groundwater, river and spring water that is being consumed by Kelantanese is questionable. The continuous deforestation and pollution do give direct impacts to these water resources. Therefore, **continuous reliability on non-treated water supply imposes health danger to Kelantanese as well as denying their basic human rights to water.**

Through WSIA model, the Kelantan state government will be able to monitor the performance of AKSB through SPAN. This will ensure AKSB's service quality to be uplifted to reach on par with other water services operators in Malaysia. **Any delay in transferring to WSIA regime will increase the future cost of water services infrastructure development.**

While water sector has been a heavily politicised sector, tolerance will ensure rakyat to get the actual benefits. AWER urges Kelantan to transfer to WSIA regime to assist Kelantanese to get better water quality and increasing the water supply coverage to more areas within Kelantan. The reality of Kelantanese getting **clean, safe and continuous water supply** is now in the hands of Kelantan State Government.

**DECIDE FOR THE BENEFIT OF THE RAKYAT !**



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