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The Looming Water Crisis in Cities

This feature dwell on several water issues particularly in Malaysia in conjunction with World Water Day 2011 that falls on 22 March 2011. This year's theme is "Water for Cities: Responding to the Urban Challenge".

According to a United Nations (UN) forecast, more and more people are residing in cities than rural areas. By end of 2008, it was estimated about half of the world's population, that is over three billion were living in cities.

Every second, the urban population grows by two people. By 2050, about 70 percent of the world's population would be city dwellers! The latest UN estimates stated that the world's population was expected to climb to 9.2 billion in 2050.

Water and sanitation are seen as the two main challenges in sustaining human urban settlements to the extent that some experts said without reliable access to safe drinking water and adequate sanitation cities cannot be sustainable.

According to UN's statistics, between 1998 and 2008, some 1.052 billion urban dwellers had access to improved drinking water and 813 million to improved sanitation. Nevertheless, the urban population during that period swelled to 1.089 billion people, thus putting a dent in progress made.

The UN data also showed that about 27 per cent of the urban dwellers in the developing world do not have access to piped water in their homes.

Global Stress Over Water

Many cities around the world are suffering from water stress. Experts are saying that coping with the increasing demands of water within the urban areas is one of the most pressing issues of this century. Prof Dr Chan Ngai Weng of Universiti Sains Malaysia (USM) said, in India for example, majority of the cities do not get 24 hours water supply, with average about a few hours a day.

"Some cities do not have enough water. The poor in the cities especially squatters and slum dwellers have no access to piped water.

"They also have to pay a high price for bottled water," he told Bernama, adding that it is thus very appropriate for this year's World Water Day to choose "Water for Cities" as its theme.

Dr Chan said in view of the water stress, there is an urgent need to practice water demand management. This, he said is for all water consumers including households, hotels, businesses, factories, schools, universities and government departments.

"Water is finite ever since Earth was formed, that is, the quantity has remained the same. Water is merely recycled naturally via the Hydrological Cycle (also known as water cycle).

"However population is exploding all the time. Agriculture and industries are also expanding to keep up with human needs for food and materials. So, water supply can never keep up with the water demand.

"Hence, the amount of water in the future (which is the same as today's) will have to be shared by the new human beings (babies that will be born in the future) and the existing humans now.

"Worse still, humans may have to fight with agriculture and industries for this water," said Dr Chan who is also President of Water Watch Penang, a non-government organization focusing on creating awareness for water conservation amongst the general public.

High Demands

In Malaysia, it is estimated that between 65 to 70 percent of the 28 million population live in the urban areas and water stress is fast developing

due to high demands both for domestic and non-domestic uses. S Piarapakaran, President of Association of Water and Energy Research Malaysia (AWER) told Bernama that most of the cities in the country do not have a water treatment plant within their vicinity. Very few cities in Malaysia, he said have such privileges, citing Taiping as an example. However, he said the water catchment, Bukit Larut which is the centre point of the town, is currently subjected to threat from development. More than 200,000 people are depending on the water source, he added.

Speaking about Kuala Lumpur, he said the metropolitan city depends fully on Selangor for water supply.

"The cost of bringing treated water from faraway locations to the centre of demands is always higher. This is due to capital and operational expenditures such as cost of electricity, piping and labour. However, in Malaysia we spread all these cost equally as tariff," Piarapakaran explained.

Pollution Issues

For a water source that flows through major cities such as Kuala Lumpur, Petaling Jaya, Puchong, Klang and Port Klang, water from the Klang River is not suitable to be treated for water supply. This is due to high level of contamination that is being discharged by all level of society and businesses into the river.

According to Piarapakaran, such situation will only increase water scarcity incident. In addition, he said many clean rivers are now drastically being polluted and with growing economy, demand and population, cities are always at risk of water scarcity as well as water stress.

"This is not only due to lack of water resources, but also due to inadequate reserve margin in water treatment and supply. Thus careful planning is vital.

"For example, if there is a water cut for a day with water treatment plant that has only five per cent reserve margin, it will be impossible for the supply system to fill up the service reservoirs, storage tanks and cater the daily demand at one go once it resumes.

"It may take days to actually fill up all the tanks and reservoir to ensure a secured supply," he added.

Piarapakaran told Bernama such a situation was observed during the Semenyih Plant shutdown due to pollution in September 2010 as well as plant shutdown for maintenance purposes in Penang Island in December 2010.

"These situations will be rampant in cities if no proper reserve margin is designed within the treatment and supply system.

"Therefore, the Malaysian government should start gazetting all rivers and its basins as well as catchment areas from further development. Areas which are subjected for development must have stringent wastewater discharge standard.

"Any new projects or industries must adhere to a stricter standard. This will reduce pollution levels. If we do not do it now, we may need to fork out hundreds of billions to revive it in the future," he stressed.

Toxic Water?

Is our drinking water toxic? Piarapakaran was quick to say "No". He also shared some findings of a recent survey done by AWER which showed that most of the water filter companies have provided some form of misleading advertisement or information on water filters.

"Water filters are now a trend in cities. These include claims on health, toxic water supply and energy from water. We have to leave it to science to prove it.

"Suruhanjaya Perkhidmatan Air Negara (SPAN) has appointed Ministry of Health (MOH) to conduct periodic drinking water quality monitoring. However, the conformance reports are still not published based on state achievements for public info," he said.

He also proposed that MOH to conduct more random water quality sampling compared to current fixed locations. The sampling size, he added should also reflect the growing population.

"This is to ensure more reliable results based on drinking water quality taken from water meter locations.

"Reports of water quality compliance must be made public as well. This is for the public to judge the services quality and capability of their water

operators," he said.

WHO Standard

According to Piarapakaran, the drinking water in Malaysia is adopting World Health Organisation (WHO) standard which means treated water would not be supplied to consumers if it is not suitable for drinking. He also explained that water operators are only responsible for the drinking water quality up to the water meter for landed properties and bulk meters for highrise buildings.

"After those locations, we are responsible as end users," he said.

In the water supply system, old piping and leakages do contribute to deteriorating water quality and water operators are responsible to rectify the problem. However, Piarapakaran reminded end users to conduct a regular check and maintenance for the internal plumbing and storage tanks in their houses.

"Many of us do not have such check and maintenance done. Therefore, it is advisable also for consumers to check the condition of their internal plumbing and storage tank first before fixing water filter or complain to the water operators about low water quality," he said.

Impacts of Old Piping

According to the Malaysian Water Industry Guide 2010, a total of 127,275 kilometers of pipes are installed and operating in Malaysia for 2009. The similar report records that in 1983 there was only 32,693 kilometers of pipes in Malaysia. Based on their operating life, pipes need to be replaced periodically.

Old cities are still having old piping. The spacing and piping locations will also be a challenge to the water operators due to limited space in cities as well as relocations due to development.

"Huge investments will be needed to carry out pipe replacement programs and usually it is carried out in phased. Pipes deteriorate due to corrosion, fracture and accidents. This will directly impact the drinking water quality," he said.

Pipe deterioration will also cause an increase in Non-Revenue Water (NRW) levels. According to Malaysia Industry Guide 2010, average NRW recorded in 2009 was 36.63 percent compared to 36.93 per cent in 2008.

Water Loss

The total treated water loss due to NRW is about 1.8 billion cubic meters in 2009. According to Piarapakaran, based on AWER's modeling study, the total financial loss caused by NRW in Malaysia was estimated at RM1.62 billion in 2008 and RM1.64 billion in 2009. He said the total revenue for water services sector in 2009 is RM3.93 billion. This means the total financial loss caused by NRW is about 41.7 percent of the total revenue based on AWER's model.

"If NRW can be reduced, the surplus in water services industry can be increased to a much sustainable level. AWER also hopes that all water operators are licensed under Water Services Industry Act 2006 to ensure NRW programs will not be too ‘expensive’.

"Pengurusan Aset Air Berhad (PAAB) will play a major role in ensuring NRW programs do not give huge impact to tariff. This only can happen if the water operators are fully regulated.

"The reduction of NRW and pipe replacement programmes will definitely increase the drinking water quality and will be able to provide an equitable tariff. This is due to among other things reduction in treatment cost, increase in revenue and reduction in operation cost," said Piarapakaran.

Water: The Unsung Hero

"Looks like teh tarik!". That was the description over the color of some of the raw water supplied to Syarikat Bekalan Air Selangor Sdn Bhd (Syabas) treatment plants. Occasionally, take a glance at the rivers around you. Some of these 'lazy but trusted' rivers have not failed in supplying the raw water for treatment plants.

The water which had been reduced its quality due to pollution, needs to be treated before it is ready for consumption. And the cost of treating raw water is not cheap. Not only the water is of 'teh tarik' in color, but in some rivers the water is murky with sediments and even emits foul odor!.

It is a bitter fact but at the same time it is the truth. The river which gets its water from rainfall should be giving us clean water but what happens is the otherwise. Are we concerned that rivers, which are mother nature's gift to us, are being continuously abused and neglected? For instance in Selangor, it has been reported out of the 37 rivers in the state, water from only 32 rivers can be treated for consumption.

A Huge Trash Can

Nowadays, a river is treated like a huge garbage bin!. How could a 'civilized' society allow this to happen? Despite being supplied garbage bins by the local authorities, there are those who preferred to take the easy way out by turning the rivers into huge garbage disposal bins and heaping various 'refuse' on the riverbanks.

In Selangor alone, 990 tonnes of garbage were fished out from rivers in a month with Penang and Johor 'contributing' 300 tonnes and 240 tonnes respectively. The irresponsible act (of garbage dumping into rivers) as well as agriculture and industrial activities have not only polluted the water but destroyed the ecosystem there. To the extent that if the activities are left unchecked, the water quality in the rivers would deteriorate into that beyond treatment and no longer fit for human consumption.

Studies revealed that water in some rivers contain heavy metals such as arsenic, mercury and lead that are not only harmful to humans but also hazardous to the rivers' habitat. And worse still, there are some who not only dump garbage into rivers, but turn them into watery graves for child born out of wedlock.

A Priceless Commodity

The story does not end with polluted river water. Even treated water is not given the concerns despite being priceless to life. Abdul Halem Mat Som, Syabas Executive Director (Corporate Affairs) said some quarters of the Malaysian society do not view water as a priceless commodity. To them, being supplied with water is 'an easy job' and water serves not more than a mere necessity.

"They only want to see water gushing out from their taps. If there is no water (out), then they will be making noise. When there is water, they don't care much. Some are even reluctant to pay their water bill even though the charge is low. This is among the things that have happened.

"The people in rural areas are more concerned if their water supply was stopped if they failed to pay the water bill unlike those in the urban zones. That is why more urban dwellers had their water supply stopped even though they are in the middle income group.

"Most of the times the public see water as having no value, similar to the fate of the unsung hero, even though water is a major need in our life," he told Bernama in an interview at his office in Jalan Pantai Baharu here recently.

Cheap

Universiti Sains Malaysia's (USM) Prof Dr Chan Ngai Weng has similar views in that Malaysians do not appreciate the importance of water. Why is that so? Prof Chan believes that there are a number of reasons to this issue with the price of water being the primary factor.

The geography professor said the water tariff in most states is being heavily subsidized.

"The domestic users are not paying the cost price (of water treatment and supply). For example in Penang, the cost of water production is about 65 sen for a cubic metre but the domestic users are only paying for only 31 sen for each cubic meter.

"Hence it is clear that the government is subsidizing 34 sen per each cubic meter of the water supplied to domestic users.

"When water gets (so) cheap, people will not bother to save or conserve water. It is time to penalise those who waste water by increasing the tariff," said Prof Chan who is also the president of Water Watch Penang (WWP).

Established in November 1997, this non-governmental organization aims to create awareness on the importance of water conservation among the society. Prof Chan suggests that the existing tariff is retained for the first 20 cubic meters used but for the next 10 cubic meters, the tariff should be increased five times and for the subsequent 10 cubic meters, the tariff should be increased 10 fold.

Misconception

"There is a lot of water in Malaysia! Floods occur frequently, right?"

This is the wrong impression imprinted in the minds of many, making them not to appreciate water, Prof Chan told Bernama.

"Even some politicians think that our country has a lot of water. This is wrong as not all states have this luxury. Some of the states like Penang, Selangor, Kuala Lumpur, Melaka and Perlis lack water," said Prof Chan.

The professor also lamented the absence of the subject on environment in the school curriculum that could educate students to care for the natural environment and, water.

"Now can we create responsible citizens who do not simply waste water?" queried Prof Chan.

Reducing Consumption

When water shortage happened, among the calls were for more dams to be constructed. According to Prof Chan, the idea is no longer feasible now due to the maximum capacity of most of the rivers in the country. What the professor implies is if a river has the capacity for only three dams then a fourth one is out of the question.

"Almost all of our rivers already have the maximum number of dams. Where can we get the water for extra supply?

"Do we desalinate (sea water) like in Singapore? The cost is 10 times more than what we are paying now. Or treat recycled water like Singapore's Newater", said the professor, adding that these alternatives are not the way out.

The only way to resolve water shortage is for the people to reduce their usage.

Wasting Water

Malaysians in general do use a lot of water. The average daily per capita consumption is 300 liters as against 150 liters consumed by Singaporeans. Prof Chan admits to using about 130 liters to 150 liters per capita a day and his water bill never exceed RM2.50 a month.

"If Malaysians conserve water like I do, then we can solve the water problem. Domestic users should reduce water consumption. Hotels, business premises, factories among others should have recycling plants as well as rainwater harvesting facilities where the water can be used for the toilets, general cleaning and gardening.

"If Malaysians can reduce their water consumption by 10 to 20 per cent, then the country does not need to build a dam at least for the next 10 years," added the professor.

When Water Becomes an Issue

Kuala Lumpur dwellers have many grouses. Right from road congestions, rising cost of living caused by higher price of goods particularly during the festive seasons and other issues. There are others who got worried over heavy downpours, as flashfloods in the city may occur.

But there is one more issue that got the residents of this metropolitan 'ruffled' and the issue is water supply and quality. There are occasions when no water flows out from the taps. And, if there is water flowing out then its quality is a cause for concern.

For residents of PKNS flats, Jalan Raja Muda Musa in Kampung Baru here, they have got used to the water supply and quality. The two blocks of flats - Block A and Block B, are the first to be constructed in Kampung Baru. Each block has 17 floors. When one stands in front of these flats, the Petronas Twin Towers (also known as KLCC) comes into view. This show how strategic the location of the flats is as Kampung Baru lies right in the heart of this city.

Located not far from the flats is the LRT station, which gives the residents in this settlement and its surrounding area access to cheap and reliable public transport. This had pushed up the value of the real estate there. A flat is now valued at RM120,000 as compared to its original price of RM28,000.

'Erratic' Water Supply

Unfortunately the erratic water supply has forced some of the residents to relocate elsewhere. For Nuha Azahari who had been staying there for about eight years, she had to move out as she could no longer tolerate the irregular water supply at the flats.

Nuha, born in Taiping, Perak, said before moving to Kampung Baru at the end of 2002, she had stayed in Sentul and Gombak. The erratic water supply at the Kampung Baru flats had riled her right from the beginning.

"If there were road works, then no water would flow out from the tap. Sometimes brownish water would come out and I have to wait for some 10 minutes for the color to become clear. Sometimes the water caused skin irritation.

"Sometimes without prior warning, we discovered that there was water supply disruption. When we turned on the taps, only air came out. Do we have to go to work without taking a bath?"

Nuha said the worst episode happened in 2009 when the water supply was disrupted for more than a week.

"The water flow (that came out from the taps) was sluggish and it came for only one to two hours daily, early morning and at dusk. Have to wait, make rationing, buy bottled water or take water from relatives' house".

At the time she had moved from the 10th floor in Block A to the 13th floor in Block B of the flats. She rented the unit with four others at RM900 a month.

"The water woes forced some residents to stay with relatives elsewhere. Others even had to take their bath at public toilets or stop at the public toilet first in order to take a bath before going to work. For how long can we take this?" she asked.

Finally she could not stand it no more. Nuha moved to a condominium in the city and she has no problems with the water supply there. She said the condominium block was newly constructed whereas the Kampung Baru flats have been there for 'ages' and that could be the reason for the erratic water supply at the flats.

Water Filter

Civil servant Mokhtar Ibrahim, 54, has stayed in the 1st floor of Block B at the Kampung Baru PKNS flats for some 20 years. Mokhtar said in his family's early years at the flat, they did not experience water supply problems.

"The flats are old. The water tanks could be rusty. That explains the brownish water. Water supply disruptions are frequent and if the supply is

restored, the water would be brownish for three to four hours", he told Bernama.

Unable to tolerate the 'rust-colored' water, Mokhtar installed water filters in his flat in 2003. He spent some RM$1,000 for two filers and in 2007, he installed new pipes as well as replaced the old water tank with a PVC one.

"The old tank was full of sediments. there are many flats with old tanks and these units are being rented out", he said, adding that at times the water that reached his flat is still murky.

"Maybe the problem is due to the mains," he lamented.

Various Problems

According to Ayob Silin, secretary for the PKNS flats' residents association, the flats were built in 1974 and four years later the residents began to move in. He said there were no problems in the early years. Ayob said the water quality problems began to surface in the 1980s and the residents there are unhappy as occupants of each unit need to fork out RM77 a month for maintenance fees. They also pay water charges in bulk as the tariff is not based on individual meters.

When the flats were managed by PKNS, the water bill for each unit was only about RM6 to RM12 a month, as there was some subsidies then.

"But since the flats' management was taken over by the Joint Management Body (JMB) on Jan 1 in 2010, the water bill for each unit becomes RM$35 a month. We can't do anything as this is the tariff fixed by Syabas.

"We are trying for the water bills to be determined by the respective individual meters but this is quite difficult. Syabas requires signatures of all owners of the flats for this but some 70 percent of the residents are those renting the units," said Ayob.

Repair Work

But there is good news for residents of the Kampung Baru flats. The 'dirty' water issue could be a thing of the past as all the eight tanks (four in Block A and four in Block B) had been replaced with fiberglass structures.

"The old tanks were rusted. Never changed since we moved in here", said Ayob who is also the secretary for JMB.

He said the government had contributed RM2 million for various repair work at the flats. The flats were also given a new coat of paint. The main pipes and water pumps were changed apart from each block getting two new lifts.

"Despite having the new water tanks and pumps, (at times and for several minutes) brownish water would still flow out from the taps. The problem could be due to the main pipes under Syabas management," said Ayob who had installed two water filters in his flat.

Zero Complaints

Ayob said JMB had informed Syabas over the water quality issue in 2010 but until today there is no action from the agency.

"If the main pipes needed to be changed, then the work may be needed by the whole of Kampung Baru as the pipes are decades old. This may involve a huge amount of money", Ayob said, adding that he hopes Syabas would give its attention on the welfare of the residents in terms of water quality.

"The residents pay high water bills even though they do not use much water. We want quality service (water supply and quality) and hope that this problem will be resolved.

"If possible we want zero complains from the residents," he added.

Enough Clean Water Supply

Each time when disruption of the water supply happens, consumers would usually heap 'not so nice' words on the entity that is responsible for supplying water. Similar words would come out from these users if they find murky water flowing out from their taps. But many may not realize that the factors affecting the water quality could be the result of other factors including the plumbing in their own premises.

"It is wrong to say that Syabas suppplies dirty or unclean water because we have treated the water according to the standard determined by the Health Ministry.

"The quality of water that reached the consumers' homes could be affected by causes like leaking or broken (underground) pipes. If such things happen, the soil would get into the pipes and the water would become brownish and emits an odor.

"The same thing happens if the treated water passes through dirty and rusty pipes. Hence the quality of water that flows out from the taps would be affected," the Executive Director (Corporate Affairs) of Syarikat Bekalan Air Selangor Sdn Bhd (Syabas) told Bernama when asked about the complaints on water quality.

(Syabas took over the supply of treated water in Selangor, Kuala Lumpur and Putrajaya on Jan 1, 2005).

Fragile Pipes

Out of the existing water supply pipes in Selangor, Kuala Lumpur and Putrajaya, 6,423 km of these pipes had succumbed to age and need to be replaced. Abdul Halem said most of the old pipes were made from asbestos cement (AC) and are more than 40 years old, easily broken and rusty.

"Not only the water supply and quality are affected but this also contributes to the high Non Revenue Water (NRW) loss", he said in an interview at his office, Jalan Pantai Baharu here recently.

However Syabas' plan to replace the old pipes had to be shelved as the government had frozen the capital expenditures (CAPEX) program and only allowsvemergency and critical work to be carried out.

(CAPEX are expenditures creating future benefits).

"When the CAPEX programme was frozen in 2008, the replacement of leaking and rusty pipes could not be carried out. We could only make repairs", he said adding that Syabas had to clarify the situation with residents who had been earlier told that these pipes would be replaced.

Syabas' Initiative

Abdul Halem said Syabas had taken the initiative to replace the old pipes in 2005 in the effort to reduce the high NRW.

"From 2005 until 2008, Syabas managed to significantly reduce the NRW from
42.78 percent to 32 percent," he said.

This was achieved via integrated moves including replacing the old pipes, curbing water pilferage apart from implementing the 'amnesty' work where water meters were installed for those who had taken water without authorization.

"Our intention is to further reduce the NRW but with the freezing of CAPEX program, we are only able to ensure that the water losses are kept to that level.

"Among others, we can initiate immediate action by repairing the broken pipes as we are not able to install the new pipes unless the freeze on CAPEX is lifted," said Abdul Halem.

There are 24,000 km of old pipes and 1,226 catchment ponds under Syabas' jurisdiction that need to be serviced.

Syabas' Consumer Friendly Program

Despite the constraints, Syabas' prime focus is to provide the optimum service available to 7.5 million consumers in Selangor, Kuala Lumpur and Putrajaya via its Consumer Friendly program. Abdul Halem said after six years in operation (up to end of 2010), Syabas' performance was encouraging in terms of water supply and improving facilities for water distribution.

Among Syabas' initiatives is the setting up of Puspel, the customer service centre, where it functions as a one-stop centre in handling complaints by consumers including that on water supply.

As of November 2010, Puspel which functions round-the-clock had received 446,890 calls. Abdul Halem said only 0.7 percent of these calls were complaints on water quality.

"This shows that Syabas has carried its responsibility well by ensuring that the quality of water supplied adheres to the standard determined by Health Ministry and its Clients Charter," he said.

He said between 2005 and 2008, Syabas invested RM1.756 billion to improve the infrastructure apart from refurbishing and upgrading pump houses, water tanks and installing additional/new pipes to boost the water supply capacity and reducing NRW.

Increasing Demand

Abdul Halem also said rapid development has increased demand for treated water hence water production from treatment plants has to be stepped up. He said there was 3.59 percent increase in water production from the average of 3,922.13 million liters per day (MLD) in 2009 to 4,062.94 MLD in January 2010.

The existing water demand in Selangor, Kuala Lumpur and Putrajaya is approaching the maximum production capacity at all water treatment plants particularly during the peak period.

"Since taking over the job supplying water (in 2005) for Selangor, Kuala Lumpur and Putrajaya, Syabas had started to identify measures to boost the existing water supply capacity to the maximum level.

"These measures allow for the alternative plans on channeling of water. For example the closure of the Salak Tinggi treatment plant due to pollution of raw water did not affect consumers as the alternative water supply was drawn from the Sungai Semenyih treatment plant", he said.

Abdul Halem also delved into the issue where pollution frequently occurred in Sungai Langat forcing stopping of operations at Batu 11 Cheras treatment plant as well as the high demand from the Sungai Langat treatment plant due to rapid development in its surrounding areas that affected the water supply in Cheras. This has forced Puncak Niaga, the operator of Sungai Langat treatment plant, to work beyond its capacity.

"Syabas is working on a project where 19 km of pipes would transfer clean water from Sungai Semenyih treatment plant to Sungai Langat treatment plant's distribution system.

"This is to meet the water supply needs in areas served by Sungai Langat water treatment plant to overcome the shortage of treated water there", he said.

Water Reserves

Despite Syabas' measures to overcome the water shortage due to the rapid development, the water reserves remain limited. According to Abdul Halem, Syabas needs to have sufficient reserves to meet demand like in peak periods, water treatment plants that stopped operations due to water pollution, power failure, excessive drought or incidents of broken pipes.

He said the reserves at water treatment plants are supposed to be at the 20 percent level, contrary to present level of 6.5 percent where the level would drop to zero during the peak hours.

"Based on the current situation added by the rapid development in Klang Valley, it is not impossible if the situation worsened to a critical level if the dry spell prolongs.

"Hence alternative water resources are needed to deal with the increased demand", he said.

Water Crisis

Based on a study by Syabas, the existing water capacity for 2010 (January-December) was 4,326 MLD as against 4,063 MLD in usage. This left 263 MLD in water reserves or six per cent of the daily needs.

"For Jan-Dec 2010, the demand for treated water increased by 4.0 percent and taking into this year's increase in demand the water reserves would be depleted in early 2012 and this would lead to a water crisis.

"Hence the need for development of new water resources and this should be done from now," said Abdul Halem.

He said Syabas had proposed to the Selangor government for 10 schemes in order to have more water resources, however only eight were approved. Three of these schemes were given the nod for immediate implementation.

"However until the end of 2010, only one scheme was completed while the other two were shelved," he said.

Abdul Halem also said Syabas had proposed several schemes to overcome the water supply shortage. The projects proposed could produce an additional 343 MLD of water.

Rainwater

Syabas also recommended the harvesting of rain water to meet the consumers' needs. This system requires, among others, storage tanks, twin internal pipes – one for drinking water and the other, for other needs. However, rain water harvesting is only suitable for newly-built premises apart from requiring a huge investment.

"It will be costly to have this facility for existing premises", he said, adding that the owners of premises should have the incentive to have this facility as using rain water is much cheaper – at 57 sen for every 1,000 liters.

He said the rain water harvesting, if carried out on a big scale, needs a long time to be implemented.

Corporate Responsibility

Syabas has not forgotten its corporate responsibility (CR) when it implemented 107 CR programmes in 2010. This included the campaign on clean water supply for all and free water supply for the needy. A programme on consumers' awareness and education was also implemented in schools and also for the younger generation to love the natural environment particularly rivers in Selangor.

Another of Syabas' CR programmes was the 'Tabung Budi', an initiative of Syabas and PNSB employees, in assisting the underprivileged in Selangor to receive water after supply to their homes was stopped due to failure in settling the water bills. Among the beneficiaries of this program are single parents with many school-going children, senior citizens, the disabled and poor families. The fund was launched on Oct 22, 2010. As of Feb 24, 2011, the recipients of Tabung Budi stood at 43 people.

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