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by :
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Water is the universal solvent. Its characteristic is important for the biological living beings to sustain. 65% - 70% of a human body is water and 75% of our brain contains water, it is vital to consume them on a daily basis. The importance of water and its cleanliness has been addressed since the early civilization.

The United Nations General Assembly (UNGA) proclaimed the period of 2005 to 2015 as the International Decade for Action with the theme **Water For Life**. The Millennium Development Goal (MDG) has outlined Goal 7, Ensure Environmental Sustainability and has set Target 10, to halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation.

Earth has approximately 97% of the world water as sea water and the balance 3% is fresh water. The 3% of fresh water, 68.7% is frozen as ice caps and glaciers, 30.1% is ground water, 0.9% of other origins (clouds) and 0.3% is surface water (rivers, lakes and springs). The surface water is 87% in lakes, 11% in fresh water swamps, and only 2% of the water comes from rivers. In Malaysia, we rely totally on river water supply to be used for drinking water processing. With so little fresh water in the world, how are we going to safeguard it?

In Malaysia, it is estimated that our annual rainfall is about 990 billion m³ (cubic metres) by taking into consideration of the surface area of 330000 km² and the average annual rainfall about 3000 mm. 566 billion m³ of the annual rainfall becomes surface runoff (water that flows on the surface of earth), 630 billion m³ is evaporated and another 64 billion m³ infiltrate (absorbed by the ground) the ground to be groundwater. Estimated water consumption in the country is about 15 to 18 billion m³ of treated water. In direct comparison, we are wasting a lot of our rainwater and did not take any action to recover it.

Quality of water

The national water consumption trend was reported in 2005 and it is based on readings that backdates to 2003. The national water consumption rate is 184 liter/person/day (2003). Selangor and Kuala Lumpur consume 285 liter/person/day (2005) and Penang consumers use around 266 liter/person/day (2003). The recommended water consumption for Malaysian scenario is 165 liter/person/day, and this shows clearly that Malaysians do not practice sustainable water consumption.



The current agenda in the water supply industry is the quality of the water supplied. In Malaysia, the Food and Safety Division has adopted the **Drinking Water Quality Standards** as the guideline for water operators on the quality of water supplied to the consumers. However, the quality of water supplied is doubtful and induces the consumers to purchase filters. This gave birth to a new business sector, the filter industry. In fact, some of the deceiving marketing tools cost thousands of ringgits but there is no need to apply high end filter system.

Bottled drinking water have flooded the market, Natural Mineral Water (NMW) and Packaged Drinking Water (PDW) are the main bottled water. NMW is defined as groundwater obtained for human consumption from groundwater resources. It contains various minerals and must comply with Schedule 26 (Regulation 360(7)), Food Regulation 1985. NMW is bottled with multi-colour bottle caps. PDW shall be potable water or treated potable water other than NMW that is sealed in bottles or other types of packaging. The bottles are only packed with white caps. The consumers should read the label and ensure the approved license number is written on the label of the bottled water.

The National Water Service Commission (SPAN) was formed to regulate the water and sewerage industry in Malaysia. This move is important to integrate the management of the

water and sewerage under one banner. Consumers should be aware that the sewerage contamination to the water source is catastrophic. Most of the consumers fail to see that the sewerage do end up in our rivers. The level of contamination of sewerage to the river is depending on the sewerage treatment system. Failure in curbing the pollution will lead to serious pollution problem to the rivers and loss of water source that can be used to process drinking water.

SPAN is expected to create an integrated system involving all stakeholders and the commission will be fully functional from 1st January 2008 onwards. Malaysian can only hope that through SPAN a better regulation on the water sector and improvement in the quality of service given.

What is Fomca's stand on water?

Fomca believes that water is no longer safe to consume directly from the source. It has to be treated due to the level of contamination that will affect human health. The technology to treat is getting more expensive due to the increasing different types of pollutants and the ever increasing demand to use treated water. We do not believe treated water should be supplied to houses for free. It has to come with a fee and the fee must be affordable to the middle and low income groups.

Fomca advocates clean and continuous treated water supply should be delivered to consumers with an affordable fee.</p></div><div data-bbox="67 374 939 908" data-label="Text"><p align="justify">

<p>We also see the need to have an integrated system (hopefully can be made possible through SPAN), in managing water and its usage. This will ensure that there are steps to take care of the water sources, give good quality of water supplied to households, and manage sewerage and other forms of waste water.

Malaysia could not run away from the fact that we are being affected by the Climate Change that is taking place globally. This makes it more important for us to ensure the effect will not jeopardize our continuous water supply.

The role of academic sector (primary, secondary and tertiary) in incorporating the need of environmental awareness becomes more important. Some of the facts in the books can no longer be used and constant update on the information given to students must be done. This includes the knowledge on drinking water, water sources and water conservation practices.

Fomca will continuously hold public programmes and schools workshops as well as seminars to disseminate information on water and environment related issues. For the reader's information, Fomca is holding a national level campaign, Water Conservation Awareness Campaign with the Ministry of Energy, Water and Communication.

How do we protect our water source?

Do not throw waste into the river as it is the main source of drinking water in Malaysia. The increasing number of
dead rivers in Malaysia and highly polluted rivers will increase the cost of treating water. Eventually it will burden consumers as the technology required to clean will be higher. Materials such as cooking oil, non-biodegradable detergent, pesticides, paints and motor engine oils are not easily degraded in water. It may kill aquatic organisms and the plants around them while polluting the river.

<p>We must protect the environment around us. If we see any illegal activities or dumping of materials into our water source, we should immediately alert the authorities. This will prevent the pollutant from spreading and curb unwanted incidents.

As the jurisdiction of protecting water source lies on the state government, they should gazette all the water catchments to prevent development. Any form of development around water catchments areas will pose a danger to the water source. It is also seen as the social

responsibility of the state government to protect the water catchments as it affects the public directly.

How can you make use of rainwater?

Rainwater harvesting is not the latest technology; humans have used this method to collect fresh water for ages. However, due to the increasing air pollution, the harvested rainwater should not be used for cooking purposes or even consumed directly.

The basic system will introduce a simple filter (screening - to filter dirt or dead leaves) and collect the water in a tank. This collected water can be used to flush toilets, gardening, cleaning the drain and floors outside the house.

School toilet flushes and hospital toilet flushes can opt to use harvested rainwater and we can save a lot of treated water from being wasted. Even households can practice this, but the piping system should not be connected to treated water system at all.

National Hydraulic Research Institute Malaysia (NAHRIM) has conducted a few series of testing. But, the usage of electric pumps to pump the harvested water is a cost, and maintenance of the pump will also give a higher cost. The overall objective to save cost and water could not be met. The gravity-based design will be good system to try, as the harvested water will be put to better use. Fomca is undertaking some studies on rainwater harvesting using gravity-based design and the results will be shared with consumers.

If more rivers are contaminated, we have to start harvesting rain water in a larger scale to use for drinking purposes. Are we going to wait until the rain water itself is gazetted?

How do we conserve water in our house?

Toilet Bowl

- Use a toilet bowl with smaller flushing capacity (for example, 6 liters or less per flush) or place a bottle of water in the tank (big flush tanks) to reduce water for each flush.
- Don't use toilet bowl as trash can to minimize the number of flushes made in a day.
- Do regular check of leakages: Add food colour to the toilet tank and lookout if the coloured water spills during or after flushing.

Shower

- Take shorter shower or install a low flow showerhead.
- Place a bucket near shower to collect access water during bathing and the water can be used to be added in the toilet bowl tank or to water plants.
- Turn off the shower while lathering soap.

The sink </p><div align="justify"><div style="left: 0px; visibility: hidden; position: absolute; top: 0px"></div></div><p align="justify"> </p><p align="justify">- Don't let the water run down while shaving, brushing teeth or washing your face. The best practice is to use fetch water in a pail and use it.
- Repair dripping faucets.

Garden

- Water lawn in the early morning or evening to avoid evaporation from heat and wind
- Only install fountains, which recycle water.
- Do not over water the lawn, avoid watering during rainy season.
- Adjust sprinklers to avoid over watering or watering the pavement. In cases of small garden usage of hose to water is more advisable.
- Regularly check sprinkle setting and timer.
- Avoid over fertilizing or use a slow release water-soluble form of fertiiser.
- Choose a water efficient landscape or garden.
- Keep your grass about 6 cm long because taller grass holds water better.
- Use a broom to clean driveways and sidewalk rather than flushing the garbage with water.

Swimming pool

- Use a water saving pool filter
- Use a pool cover to keep the water clean and reduce evaporation. Recycle the water to be used in the lawn or garden.

Kitchen

- Avoid running water

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to wash dishes or cloths, fill the sink and use the water.
- Always turn off your pipe tightly so that it would not leak.
- Fill up the washing machine at each wash as it uses the same average amount of water.

Garage

- Use a bucket during washing the car rather than running water in the hose
- Prevent any type of oil from spilling as it takes a lot of water and soap to wash it off.

Other matters </p><p align="justify">- Be well informed about public meetings on water issues.
- Report broken pipes and free flowing wells to authority.
- Encourage that water conservation to be taught in school.
- Support increased use of reclaimed water for irrigation.
- Check all water related pipelines consistently to avoid interior leakages
- Use water harvested from rain in garage and garden and if possible even for toilet flushing. </p><div align="justify"><hr /></div><p align="justify"> </p><p align="justify"> </p>