CHAPTER 5
CONCLUSION

5.1 INTRODUCTION

This chapter begins with summary and discussion of main findings that implicates knowledge and behavior towards water conservation issues. The final section discusses some policy and programme implications.

5.2 SUMMARY OF FINDINGS

It is found out that almost all respondents acknowledge the vital of water resources because of the cost of water, to ensure the availability of water and water is vital nature resource. Furthermore, some 83 per cent of respondents think that there is a possibility of shortage of clean water in future. Tertiary education plays a significant role in helping respondents to perceive that there is a possibility of water shortage in future.

Respondents also have acknowledged the wastage of water is mainly due to some human behaviour and carelessness. For example, about 70 per cent of the respondents know that the water wastage have direct relationship with them and other 30 per cent may have indirect influence on the issues. However, majority of them still very careless and irresponsible in using water such as, let the water run continuously while doing some activities and using the hose to wash their cars and watering plants. It seems there is a

gap between the knowledge on the importance of water and the participation in water conservation. This may due to the cheap water tariff and convenience overtake their intention of wanting to conserve the water.

Wastes from industries and domestic and the management and infrastructure of State Water Supply Department (JBA) are the main cause of drinking water pollution. Nearly all respondents assume that the main reason of water disruption is due the management, maintenance and coordination of Water Supply Department and pipe leakage. Inappropriate of disposal battery would heavy pollute the freshwater. The study shows that the individual consumption of respondents is twice the national batteries consumption in 1998.

Majority of the respondents do not have the correct knowledge in handling water conservation. Many of them do not give specific suggestion, this may due to the lack of knowledge and awareness among of them. Therefore, it is necessary to increase the knowledge and awareness if the public on the daily conservation pattern through the mass media. Education and campaign are needed to raise the awareness of respondents in saving the vital nature resource. In the opinion of respondents, mass media is the best way to educate the public to conserve water.

In responding to the water leakage happened at home, only 60 per cent of respondents would take the immediate action and the rest either delay in action or just ignore it. In addition, they are also very poor in responding to the water leakages at the

roadside or public places. It shows the low awareness of respondents in taking care of public interest, which they think that the leakages do not have the direct impact on them.

Education and income background are affecting the response of respondents towards water leakage at their own residents. Less educated respondents are more likely to ignore the water leakage at home than more educated respondents. The lower income respondents are also more likely to ignore the leakage situation compared with those with higher income.

Gender, educational level, martial status and household income are influencing respondents' respond towards pipe leakage at the roadside or public place. Single young male (aged 30 years old and below) with tertiary education and lower household income (less than RM2000 per month) is more likely to ignore the situation. On the other hand, married male (aged 50 years old and above) with secondary education and middle household income (RM2000 to RM4999) is more likely to report the pipe leakage at the roadside or public places to Water Supply Department (JBA).

On the average, each respondent uses about 230 literes of water per day for daily need and use. Many of them shave the habit of use the non-water conservative ways to do their daily activities. For example, bathing with 'gayung', let the water run continuously in brushing teeth, use hose to wash the car or van and so on. Thus, it provides a lot of room for respondents to save plenty of water and money if they would change their habit. For example, an individual could save up to 12,510 litres or RM 5.25

per household per month if he or she could use the most water conservation way in the daily activities.

Generally, providing the positive suggestion and knowledge in conserving the water do not persuade a person also participating in water conservative activities. The gap is appearing between perceived knowledge and real action.

Age and ethnic group do not have the effect on the individual awareness in using the water. Gender and education background only affect certain activity of the individual awareness in using the water. The behaviour of respondents who take the water for granted may cultivate as habit from their upbringing. They may not receive a lot of water conservative knowledge from parents who also do not have the adequate knowledge.

5.3 POLICY AND PROGRAM IMPLICATIONS

The study indicates that so long as the public does not link water conservation issue as directly affecting themselves, they are unlikely to change their habits in using water for daily activities. It is therefore necessary to start an action-oriented programme such as, water conservation campaign, exhibition, and competition in the community, where people begin to see a link between what they do and the contribution they make to their own environment and lives.

When water is not properly priced, it is frequently wasted. Inexpensive water only appears inexpensive. It often carries high or hidden costs for water users and the environment. Pricing water at appropriate levels encourages conservation and efficiency actions and investments. All water use and wastewater discharges should be charged at rates (and with rate structures) that encourage efficiency. However, governments do have a duty to ensure that basic human needs for water are met regardless of one's ability to pay.

It is also found that there is a need to increase awareness and knowledge towards participating in the reporting the water leakage at public places and the ways to conserve the water in our living places especially to those who are less educated. The reason for not reporting is not known as this was not asked during the survey. The low percentage of reporting may due to the respondents do not know where and how to report and also the duration taken to response after reporting to the authority concerned. Mass media could play an important role in educating the public on this matter. The slowness and no action of the authority concerned may deter people from reporting pipe leakage.

Mass media remains the most popular channel of information and hence, the media, being also a member of the community, can take lead role in educating and encouraging public to participate in water conservation activities. There are numerous recycling activities on the ground but still very little on the water conservation campaign. Thus, mass media need to highlight the water conservation issues that can result in a change of behaviour to reduce use of water, reuse or recycle the water, and care for our

environment, so that, our nature resources will remain sustainable for our future generation.

In the last decade the importance of environmental education especially on waste management and recycling was seen as a vital link to strengthen the overall awareness of the Malaysian public (Sahabt Alam Malaysia, 1991). Thus, there is a need to include the importance of the water conservation in the national education system. Furthermore, water conservation programme and campaigns which have targeted on young generation also need to focus on bigger segment because all effort may come to nought since the young will imitate by example of the older generations. Water conservation programmes can only succeed with concerted efforts from all groups in society and on a continues basis.

State Water Supply Department (JBA) needs to improve their service in dealing the non-revenue control such as pipe leakage at the public places. Campaign and hotline needed to encourage public t

o report the water leakage at public places. JBA needs to make sure immediate action has been taken once it receives the report. Some incentive could also be provided to increase the participation from public.

Very few of the respondents are aware of the new technology is available to help to save the water and money. This results in choosing less-efficient technologies. For example, many consumers do not know that the performance of the new ultra-low-flow toilets, low flow faucet and showerhead are better than older and inefficient models and

that will save a considerable amount of money for them. Appliance labeling is a powerful educational tool and information. Labeling for water-using appliances should be implemented. Such labeling permits consumers to make more informed choices about their actions and purchases.

Lack of information (or failure to disseminate the information) hinders effective action. There is lack of the information on the ground. This will depend on water users, and suppliers at all levels talking specific steps to increase the reliability, quality and quantity of available data on water use and water conservation options.

Because of such a huge percentage of the water used is in the bathroom, faucet and outdoor, that is where water conservation efforts should focus. They are a lot of the water conservation tips on internet, please visit URL: http://www.h2ouse.org for more details. Some of them are listed as below:

- Put a brick or plastic bottle filled with water in the toilet cistern to create the half or low-flush effect. Check for leakages by adding colouring (you can use food colouring) into the cistern. If the colouring appears even without flushing, then the toilet is leaking (The Star, 8 April 2001).
- Use low flow, water-saving showerheads. This piece of plumbing reduces the amount of water flowing through your shower by up to 50 percent, but increases its velocity so the shower feels the same. Do not take long shower; limit them to five minutes. That can save 15 - 30 litres per shower (Rutgers Cooperative Extension, 2004).

- Faucet aerators. These devices restrict the amount of water going through your faucet by up to 50 percent, but add bubbles so the flow of water appears the same. They could be installed on all of faucets, both externally and internally (The Star, 8 April 2001).
- Do not run water continuously when washing dishes by hand. Do not leave the water running when brushing your teeth or shaving. With the tap running at full force, shaving takes 90 litres of water, teeth-brushing takes 45 and hand-washing takes nine.
- Fix leaky faucets immediately. A leaky faucet, dripping once per second, wastes six gallons of water a day. Install low-flow aerators on every faucet.
- Choose plants that are native to the area you live or plants that are drought resistant for landscaping and gardens. Native plants are use to the natural amount of precipitation that occurs in the area they are found and normally do not require any additional watering. This is known as Xeriscaping.

5.4 CONCLUSION

It seems strange to promote water conservation in a region that receives between 2500mm and 3500mm of rain a year. But continued growth in the area and the population mean the water resources have to be stretched further to serve thousands of new residents and the new businesses and industries they bring with them. Despite a plentiful of rain, shortage still occur due to uneven rainfall distribution, increase water demand and water mismanagement as shown by the 1998 water crisis. Water

conservation is a way out. Conservation efforts help maintains a reliable, low-cost water supply that benefits current and future residents.

Some effective policies and programmes that would 'persuade' people to participate in carrying out water conservative activities are much needed. As currently, many do not know about such issues and do not feel a sense of responsibility. It is great environmental disaster than everyone think that whatever they do will not make any difference. In fact, every decision that we make about how we live our lives, whether momentous or seemingly significant, works either towards greening of the planet or against it.

"Many of the wars in 20 century were about oil, but those of the next century will be over water" – Ismail Serageldin, World Bank, 1995. Progress is judged by one major yardstick, a steadily improving quality of life of the people. Better quality of life only can be achieved through make sure have enough water to survive. Changing the attitude and behaviour of each individual are a necessary condition for sustainable supply of clean resources. We can live without a lot of things but water is not one of them.