CHAPTER 4

ENVIRONMENTAL AWARENESS, ATTITUDE AND PARTICIPATION

4.1 INTRODUCTION

This chapter assesses respondents' awareness and attitude towards environmental issues. It highlights respondents' awareness on environmental matters such as effects of pollution and discusses suggestions and actions taken by respondents to address environmental issues such as car pooling and bringing own bag when marketing. This provides a more in-depth analysis to the assessment of environmental awareness. This chapter also highlights respondents' self-perception and role for participation in environmental initatives.

4.2 ENVIRONMENTAL AWARENESS AND KNOWLEDGE

Environmental awareness is key to inculcating an environmentally responsible and conscious society. *Environmental awareness* can be defined as having the knowledge and realization of environmental issues. Hence, knowledge towards environmental issues can result in active participation. This section will look at two measures of environmental awareness, knowledge of the effects of pollution and outcome of household wastes.

4.2.1 Effects of Pollution

Pollution problems are becoming increasingly serious in urban areas amidst poorly planned and rapid development growth. This is even worse in squatter areas where development is unplanned and facilities are limited to mitigate pollution impacts. The majority of responses understand the link between health and the effects

of pollution (Table 4.1). Only 18 per cent link the effects of pollution to environmental impacts alone while 10 per cent do not know. It is pertinent to note that a higher percentage of the respondents link pollution to long term effects on health rather than immediate impacts upon the environment.

TABLE 4.1: PERCENTAGE DISTRIBUTION OF RESPONDENTS BY OPINION ON THE EFFECTS OF POLLUTION

Characteristics	*Effects of Pollution*				*Total*	
	Health	*Env.*	*H&E*	*Don't know*	*Per cent*	*n*
Gender	***65.4***	***18.1***	***5.4***	***11.1***	***100.0***	***370***
Male	62.3	17.0	6.1	14.6	100.0	212
Female	69.6	19.6	4.4	6.3	100.0	158
Ethnic Group	***65.4***	***18.1***	***5.4***	***11.1***	***100.0***	***370***
Malays	64.6	18.5	6.2	10.8	100.0	195
Chinese	68.3	22.0	7.3	2.4	100.0	41
Indians	61.6	19.8	3.5	15.1	100.0	86
Others	72.9	10.4	4.2	12.5	100.0	48
Age Group	***65.4***	***18.1***	***5.4***	***11.1***	***100.0***	***370***
30 and below	65.3	46.3	7.2	9.0	100.0	167
31 – 40	66.7	32.8	4.3	10.3	100.0	117
41 – 50	61.5	11.9	3.8	19.2	100.0	52
51 and above	67.6	17.6	2.9	11.8	100.0	34
Education*	***65.4***	***18.1***	***5.4***	***11.1***	***100.0***	***370***
None	67.6	8.1	5.4	18.9	100.0	37
Primary	57.0	17.0	5.0	21.0	100.0	100
Secondary	69.7	18.1	5.3	6.9	100.0	188
Tertiary	64.4	28.9	6.7	0	100.0	45
Types of LQs	***65.4***	***18.1***	***5.4***	***11.1***	***100.0***	***370***
Low Cost	65.7	17.3	4.6	12.3	100.0	324
Medium & High Cost	63.0	23.9	10.9	2.2	100.0	46
Ownership Status	***65.4***	***18.1***	***5.4***	***11.1***	***100.0***	***370***
Owner	67.2	19.5	3.1	10.2	100.0	128
Tenant	64.5	17.4	6.6	11.6	100.0	242

* Significant at 5 per cent level
Note: Env. = Environment, H&E = Health and Environment
n number of cases

Amongst the respondents who link the state of the environment to the effects of pollution, a high per cent attributed pollution as a cause of haze, a popular issue highlighted in the media.

The difference in response across education level is significant at 5 per cent indicating that educational level influences environmental awareness. Respondents with higher education seem more likely to cite environment impacts as effects of pollution compared to the respondents who had no or primary education level. Some 18 per cent of the respondents with no education reported 'don't know' answers compared to 6 per cent for respondents with secondary education.

4.2.2 Knowledge of Outcome of Household Waste

Household waste is often sent to landfills for disposal. The situation in Malaysia has reached a critical stage where 80 per cent of the country's landfills will be full in two years at the current rate of urban waste disposal (The Star, 19 March 2002).

About half (46 per cent) of the respondents are not aware of the fate of their wastes (Table 4.2). About one out of three respondents believe that their household wastes would end up in landfills and only 12 per cent recognise that their household wastes may end up as pollutants. Some 9 per cent believe that their wastes would be recycled. This shows that the majority of the respondents do not see the impacts of their wastes on the environment and their own quality of life. At the same time, this reflects that the level of environmental awareness is low and hence associated with the lack of concern towards environmental problems.

Classification by selected characteristics reveal that differences in knowledge are significant at 5 per cent level for ethnic group and education. Again, this may reflect some differences in income levels. About 73 per cent of the respondents with no education are not aware of the outcome of waste compared to 33 per cent of the respondents with tertiary education.

TABLE 4.2: PERCENTAGE DISTRIBUTION OF RESPONDENTS BY PERCEPTION ON OUTCOME OF WASTE BY SELECTED CHARACTERISTICS

Characteristics	*Landfill*	*Pollutant*	*Recycled*	*Don't know*	*Per Cent*	*n*
Gender	***32.7***	***12.2***	***9.2***	***45.9***	***100.0***	***370***
Male	31.0	10.1	7.0	51.9	100.0	212
Female	34.0	13.7	10.8	41.5	100.0	158
Ethnicity *	***32.7***	***12.2***	***9.2***	***45.9***	***100.0***	***370***
Malays	25.1	16.9	11.8	46.2	100.0	195
Chinese	41.5	0.0	7.3	51.2	100.0	41
Indian	44.2	10.5	8.1	37.2	100.0	86
Others	35.4	6.3	2.1	56.3	100.0	48
Age Group	***32.7***	***12.2***	***9.2***	***45.9***	***100.0***	***370***
30 and below	35.9	15.0	10.2	38.9	100.0	167
31 – 40	28.2	9.4	8.5	53.8	100.0	117
41 – 50	32.7	9.6	13.5	44.2	100.0	52
51 and above	32.4	11.8	0	55.9	100.0	34
Education *	***32.7***	***12.2***	***9.2***	***45.9***	***100.0***	***370***
None	18.9	5.4	2.7	73.0	100.0	37
Primary	33.0	10.0	4.0	53.0	100.0	100
Secondary	34.6	13.3	12.2	39.9	100.0	188
Tertiary	35.6	17.8	13.3	33.3	100.0	45
Types of LQs	***32.7***	***12.2***	***9.2***	***45.9***	***100.0***	***370***
Low cost	31.8	12.0	10.2	46.0	100.0	324
Med. & High Cost	39.1	13.0	2.2	45.7	100.0	36
Ownership Status	***32.7***	***12.2***	***9.2***	***45.9***	***100.0***	***370***
Owner	35.9	10.9	10.2	43.0	100.0	128
Tenant	31.0	12.8	8.7	47.5	100.0	242

* Significant difference at 5 per cent, n number of cases.

An important observation is that many of the respondents do not know that quite a fair bit of their unwanted items could be recycled. Hence, it is crucial to provide relevant information and support especially to squatter communities who tend to be amongst the poorest to inculcate a sense of responsibility and participation for the betterment of the environment as well as for their own well-being.

Respondents with no education are two times more likely to be unaware of household waste outcomes compared to those with tertiary education. Almost one fifth of the respondents with tertiary education are able to identify that household wastes would end up as pollutants.

4.3 Environmental Attitude and Practice

Environmentally friendly attitude and practices contribute significantly towards reducing pressure and damage to the environment. *Attitude* reflects the way of thinking and perception towards environmental issues while practice involves action on the part of the respondents. Through respondents' attitudes and environmental actions, the level of interest and commitment towards environmental issues is indicated. In this respect, income levels may have a role in choice of environmentally friendly products.

4.3.1 Environmental Criteria in Product Usage

Environmental friendly products often cost more than normal products. About 40 per cent of the respondents would choose products which are environmentally friendly (Table 4.3). Only the difference in response across ethnic group is significant at 5 per cent level. Malay and Chinese respondents are more likely to choose products based on this criterion than those of other ethnic groups.

TABLE 4.3: PER CENT OF RESPONDENTS WHO WOULD CHOOSE TO PURCHASE ENVIRONMENTALLY FRIENDLY PRODUCTS BY SELECTED CHARACTERISTICS.

Characteristics	*Environmental Friendly Products*	*n*
Gender	***39.5***	***370***
Male	39.2	158
Female	39.9	212
Ethnic Group *	***39.5***	***370***
Malays	45.6	195
Chinese	43.9	41
Indians	31.4	86
Others	25.0	48
Age Group	***39.5***	***370***
30 and less	35.9	167
31 – 40	40.2	117
41 – 50	38.5	52
51 and above	55.9	34
Education	***39.5***	***370***
None	29.7	37
Primary	42.0	100
Secondary	37.8	188
Tertiary	48.9	45
Types of Living Quarters	***39.5***	***370***
Low Cost	38.9	324
Medium and High Cost	43.5	46
Ownership Status	***39.5***	***370***
Owner	42.2	128
Tenant	38.0	242

* Significant at 5 per cent level
n number of cases

4.3.2 Buying Used Items

Reusing goods is another way to reduce natural resource wastage and environmental impact. When asked if it is important to buy only new items, 30 per cent of the respondents report that they are willing to buy used items (Table 4.4).

The variation in buying used items is significant at 5 per cent level for age, ethnic group and education. Older respondents are more willing to buy used items

compared to younger respondents. For example, 47 per cent of the respondents above 50 years old are willing to buy used items compared to 29 per cent of the respondents of age 30 years and below.

Respondents with lower education are more willing to buy used items (62 per cent with no education) compared to respondents with tertiary education level (29 per cent). This could be due to the fact that respondents with lower education levels have lower income and hence do not mind buying used items.

TABLE 4.4: PER CENT OF RESPONDENTS WILLING TO BUY USED ITEMS BY SELECTED CHARACTERISTICS

Characteristics	*Used Items*	*n*
Gender	***30.0***	***370***
Male	31.6	158
Female	28.8	212
Ethnic Group *	***30.0***	***370***
Malays	29.7	195
Chinese	29.3	41
Indians	18.6	86
Others	52.1	48
Age Group *	***30.0***	***370***
30 and below	28.7	167
31 – 40	32.5	117
41 – 50	17.3	52
51 and above	47.1	34
Education *	***30.0***	***370***
None	62.2	37
Primary	29.0	100
Secondary	24.5	188
Tertiary	28.9	45
Types of Living Quarters	***30.0***	***370***
Low Cost	28.4	324
Medium and High Cost	41.3	46
Ownership Status	***30.0***	***370***
Owner	32.0	128
Tenant	28.9	242

* Significant at 5 per cent level, n number of cases.

Malay and Chinese respondents show a higher disposition to buy used goods than the Indians. The highest is those from other ethnic group, which comprise mainly Indonesians. Perhaps due to their income and short duration of residence, they are more willing to buy used items.

4.3.3 Environmental Practices When Shopping

The habit of bringing a basket or own bag while shopping is another environmentally friendly behaviour.

TABLE 4.5: PER CENT OF RESPONDENTS WHO WOULD BRING BASKET WHEN SHOPPING BY SELECTED CHARACTERISTICS

Characteristics	*Bring Basket*	*n*
Gender	***24.6***	***370***
Male	22.8	158
Female	25.9	212
Ethnic Group	***24.6***	***370***
Malays	27.2	195
Chinese	22.0	41
Indians	24.4	86
Others	16.7	48
Age Group	***24.6***	***370***
30 and below	25.1	167
31 – 40	22.2	117
41 – 50	25.0	52
51 and above	29.4	34
Education	***24.6***	***370***
None	18.9	37
Primary	25.0	100
Secondary	25.0	188
Tertiary	26.7	45
Types of Living Quarters	***24.6***	***370***
Low Cost	89.0	324
Medium and High Cost	11.0	46
Ownership Status	***24.6***	***370***
Owner	26.6	128
Tenant	23.6	242

n number of cases

Some 25 per cent of the respondents would bring their own bag when shopping (Table 4.5). This practice is less likely compared to the other behavioural practices such as car-pooling and reporting vehicles emitting black smoke. The responses are not significantly different across groups at 5 per cent level for all the variables listed.

4.3.4 AIR POLLUTION

Air pollution may result from vehicle emission and other sources. It is therefore of relevance to understand how many of the respondents attribute air pollution to the use of their own vehicles and present conditions.

Car-pooling and Condition of Vehicles

Car-pooling provides a good indication of the level of environmental behavior amongst respondents. However, car-pooling may be to reduce costs or a matter of convenience, especially important for the lower income groups. Hence, it would be important to verify with follow-up questions if car-pooling is linked to concerns for the environment or is a cost factor. At the same time, the question may not apply to respondents who do not own cars as these respondents do not have the choice in determining whether they would like drive or car-pool. Hence, a question to find out the respondents' frequent mode of transport could help filter out non relevant respondents.

Nevertheless, approximately 43 per cent of the respondents are willing to car-pool to reduce environmental pollution (Table 4.6). The difference across ethnic group is significant at 5 per cent level. The Malay and Indian respondents are more likely to car-pool compared to the Chinese and others.

TABLE 4.6: PER CENT OF RESPONDENTS WHO WOULD CAR POOL TO REDUCE POLLUTION BY SELECTED CHARACTERISTICS

Characteristics	*Would Car Pool*	*n*
Gender	***43.2***	***370***
Male	40.5	158
Female	45.3	212
Ethnic Group *	***43.2***	***370***
Malays	49.2	195
Chinese	39.0	41
Indians	43.0	86
Others	22.9	48
Age Group	***43.2***	***370***
30 and less	41.9	167
31 – 40	43.6	117
41 – 50	44.2	52
51 and above	47.1	34
Education	***43.2***	***370***
None	37.8	37
Primary	40.0	100
Secondary	45.2	188
Tertiary	46.7	45
Types of Living Quarters	***43.2***	***370***
Low Cost	43.2	324
Medium and High Cost	43.5	46
Ownership Status	***43.2***	***370***
Owner	48.4	128
Tenant	40.5	242

* Significant at 5 per cent level.
n number of cases

Vehicle Pollution

Some 71 per cent of the respondents would ensure that their vehicles do not emit black smoke (Table 4.7). This, however, may not be due to environment concern but more to ensure good maintenance of their own vehicle. Only the differences across ethnic group and gender are significant at 5 per cent level. A high percentage of the Chinese would ensure that their vehicles do not emit excessive smoke

compared with the Malays and Indians. The males are more likely to ensure that their vehicles do not emit excessive smoke compared to the females.

TABLE 4.7: PER CENT OF RESPONDENTS WHO WOULD ENSURE THEIR VEHICLES DO NOT EMIT EXCESSIVE SMOKE

Characteristics	*Do not Emit Excessive Smoke*	*n*
Gender *	**70.6**	**360**
Male	79.4	155
Female	63.9	205
Ethnic Group *	**70.6**	**360**
Malays	72.0	193
Chinese	92.5	40
Indians	67.1	79
Others	52.1	48
Age Group	**70.6**	**360**
30 and below	69.1	162
31 – 40	68.4	114
41 – 50	76.0	50
51 and above	76.5	34
Education	**70.6**	**360**
None	60.0	35
Primary	64.6	96
Secondary	74.1	185
Tertiary	77.3	44
Types of Living Quarters	**70.6**	**360**
Low Cost	69.2	315
Medium and High Cost	80.0	45
Ownership Status	**70.6**	**360**
Owner	76.2	122
Tenant	67.6	238

* Significant at 5 per cent level.
Note: 10 respondents do not have any vehicle.
n number of cases

Open Burning

Open burning of rubbish is traditionally a common practice especially in the rural areas. The environmental impacts of open burning have increasingly caused wider implications regionally. The 1998 haze episodes have brought about a change

of mindsets amongst Governments in Asia and also to the lay men on the street regarding open burning. It is now common for the Department of Environment of Malaysia to ban open burning during dry seasons. Reporting of open burning reflects that the respondent take extra initiatives taken to ensure that pollution to the atmosphere is minimised.

TABLE 4.8: PER CENT OF RESPONDENTS WHO HAVE REPORTED OPEN BURNING BY SELECTED CHARACTERISTICS

Characteristics	*Report Open Burning*	*n*
Gender	**19.7**	**370**
Male	21.5	158
Female	18.4	212
Ethnic Group *	**19.7**	**370**
Malays	13.8	195
Chinese	31.7	41
Indians	29.1	86
Others	16.7	48
Age Group	**19.7**	**370**
30 and below	17.4	167
31 – 40	17.1	117
41 – 50	32.7	52
51 and above	20.6	34
Education	**19.7**	**370**
None	29.7	37
Primary	15.0	100
Secondary	20.2	188
Tertiary	19.7	45
Types of Living Quarters *	**19.7**	**370**
Low Cost	17.9	324
Medium and High Cost	32.6	46
Ownership Status*	**19.7**	**370**
Owner	25.8	128
Tenant	16.5	242

* Significant at 5 per cent level.
n number of cases

The results show that approximately 20 per cent of the respondents have reported open burning (Table 4.8). The variation in open burning behaviour is

significant at 5 per cent level across ethnic group, types of living quarters and ownership status. Chinese and Indian respondents are more likely to report open burning. For example, 32 per cent of the Chinese respondents and 29 per cent of the Indian respondents have reported cases of open burning compared to 14 per cent amongst the Malays.

ome 33 per cent of the respondents from medium cost housing have reported cases of open burning compared to 18 per cent of respondents from low cost housing. Owners are more likely to have reported cases of open burning compared to tenants (26 per cent compared to 17 per cent).

4.4 Opinion on Environmental Issues

Understanding respondents' opinion of environmental issues is important to provide an indication of the level of environmental interest and commitment in environmental activities. Respondents were asked what actions they would take to protect the environment. Some 6 out of 10 reported that they would ensure cleanliness of their surrounding and houses (Table 4.9). This shows that the majority is concerned about their own welfare and does not consider larger environmental issues.

Only 7 per cent suggested the 3R practices of reducing, reusing and recycling household wastes and 10 per cent suggested planting greenery such as trees and vegetables. About 14 per cent of the respondents do not know what actions to take to protect the environment. The remaining 7 per cent suggested other actions including reporting to the authorities, cooperate with environmental agencies and following laws (Table 4.9).

TABLE 4.9: PERCENTAGE OF RESPONDENTS WHO WOULD CHOOSE THE FOLLOWING ACTIONS TO PROTECT THE ENVIRONMENT

Actions to Protect the Environment	*Per cent*	*n*
Ensure Cleanliness	61.1	226
Tree and Vegetable Planting	10.0	37
Reduce, Reuse, Recycle	7.0	26
Education & Awareness Programmes	3.5	13
Avoid open burning	4.6	17
Others (Report to authorities, cooperate with environmental agencies, follow laws)	7.0	26
Don't know	14.1	52

Note: Multiple answers

4.4.1 Environmental Participation

Respondents were asked if environmental activities should be encouraged. A resounding 87 per cent of the respondents agreed that environmental activities should be encouraged (Table 4.10). This result seems to be in sharp contrast with the responses of other questions possibly due to the fact that respondents are inclined to give a positive answer when given a choice to sound good.

An alternative to find out respondents' attitude towards environmental participation is to provide a set of social and environmental priorities (eg. traffic jams, education, environmental issues) and have the respondents rank the priorities. This would necessitate that the respondents choose against a range of choices. Hence, the respondents' priorities for environmental activities can be observed. Variation in respondents is found to be significant at 5 per cent level only for education.

TABLE 4.10: PER CENT OF RESPONDENTS WHO AGREE ENVIRONMENTAL ACTIVITIES SHOULD BE ENCOURAGED BY SELECTED CHARACTERISTICS

Characteristics	*Env. Activities Encouraged*	*n*
Gender	***87.0***	***370***
Male	87.3	212
Female	86.8	158
Ethnic Group	***87.0***	***370***
Malays	90.3	195
Chinese	90.2	41
Indians	83.7	86
Others	77.1	48
Age Group	***87.0***	***370***
30 and below	87.4	167
31 – 40	88.0	117
41 – 50	86.5	52
51 and above	82.4	34
Education *	***87.0***	***370***
None	70.3	37
Primary	81.0	100
Secondary	93.1	189
Tertiary	88.9	45
Types of Living Quarters	***87.0***	***370***
Low Cost	85.8	324
Medium and High Cost	95.7	36
Ownership Status	***87.0***	***370***
Owner	85.9	128
Tenant	87.6	242

* Significant at 5 per cent level
n number of cases

A further analysis behind the motivation for supporting environmental initiatives showed that most respondents report general reasons such as having clean and fresh air and assurances of clean water as the main factors. These are categorised as environmental reasons and constitute 40 per cent of the responses (Table 4.11). Only one respondent cited a specific environment reason, that is protection of the ozone layer. This indicates that the level of understanding and appreciation of environmental activities is low.

TABLE 4.11: PERCENTAGE OF RESPONDENTS BY REASONS FOR ENCOURAGING ENVIRONMENTAL ACTIVITIES

Characteristics	*Reasons for Encouraging Environmental Activities*					
	Health	*Envt.*	*Others*	*Don't know*	*Per cent*	*n*
Gender	***22.4***	***40.5***	***14.9***	***22.2***	***100.0***	***370***
Male	19.8	39.2	16.0	25.0	100.0	212
Female	25.9	42.4	13.3	18.4	100.0	158
Ethnic Group*	***22.4***	***40.5***	***14.9***	***22.2***	***100.0***	***370***
Malay	21.5	43.6	11.8	23.1	100.0	195
Chinese	14.6	43.9	26.8	14.6	100.0	41
Indians	29.1	38.4	17.4	15.1	100.0	86
Others	20.8	29.2	12.5	37.5	100.0	48
Age Group	***22.4***	***40.5***	***14.9***	***22.2***	***100.0***	***370***
30 and below	22.8	42.5	13.8	21.0	100.0	167
31 – 40	23.1	35.9	19.7	21.4	100.0	117
41 – 50	25.0	36.5	13.5	25.0	100.0	52
51 and above	14.7	52.9	5.9	26.5	100.0	34
Education	***22.4***	***40.5***	***14.9***	***22.2***	***100.0***	***370***
None	27.0	32.4	16.2	24.3	100.0	37
Primary	17.0	40.0	13.0	30.0	100.0	100
Secondary	23.4	41.0	16.5	19.1	100.0	188
Tertiary	26.7	46.7	11.1	15.6	100.0	45
Types of LQs	***22.4***	***40.5***	***14.9***	***22.2***	***100.0***	***370***
Low Cost	22.2	41.0	13.3	23.5	100.0	324
Med. & High Cost	23.9	37.0	26.1	13.0	100.0	46
Ownership Status	***22.4***	***40.5***	***14.9***	***22.2***	***100.0***	***370***
Owner	25.0	43.8	16.4	14.8	100.0	128
Tenant	21.1	38.8	14.0	26.0	100.0	242

* Significant at 5 per cent level
n number of cases
Note: Others include encouraging closer ties amongst the community, benefits for the future, moral reasons.

About 22 per cent of the respondents attribute health reasons as factors for encouraging environmental activities (Table 4.11). This shows that the respondents perceive environment to be linked to health and the well being of humans. Approximately 15 per cent of the respondents give other reasons such as encouraging

closer ties amongst the community, benefits for the future and to moral reasons while 22 per cent report that they do not know or do not think such issues are relevant.

Further cross tabulations by various variables reveal that only the difference across ethnic group is significant at 5 per cent level. Malay and Chinese communities are more likely to link environmental factors such as having clean air and water to reasons for encouraging environmental activities compared to the other ethnic groups.

4.4.2 Benefits of Tree Planting

Respondents were asked their opinion on the benefits of tree planting. Some 90 per cent of the respondents agree that planting trees help to improve the environment (Table 4.12). The difference across education is significant at 5 per cent level.

Respondents with higher education are more likely to agree that planting trees help to improve the environment. For example, 93 per cent of respondents with tertiary education think that planting trees would help in environmental preservation compared to 78 per cent with no schooling (Table 4.12).

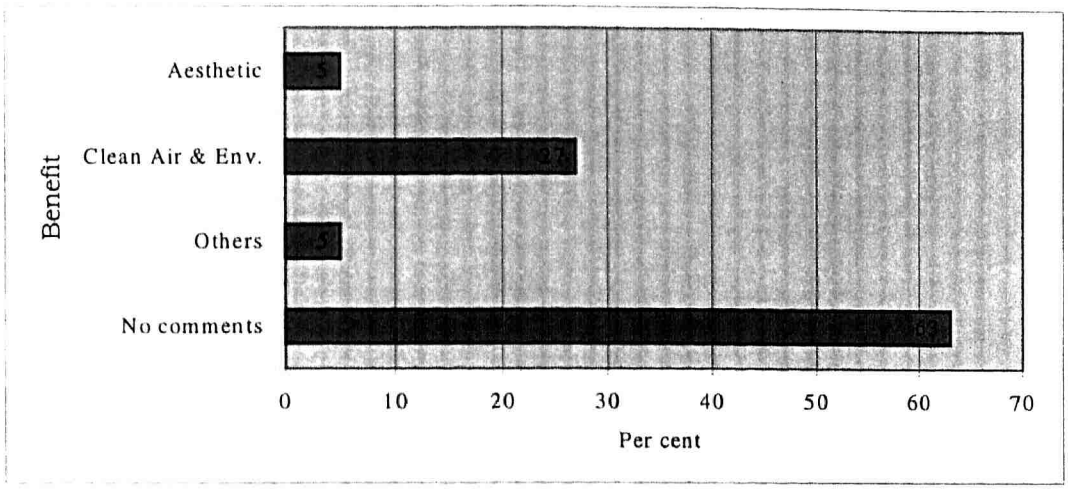
TABLE 4.12: PERCENTAGE OF RESPONDENTS BY OPINION OF TREE PLANTING BY SELECTED CHARACTERISTICS.

Characteristics	*Tree Planting*	*n*
Gender	**89.5**	**370**
Male	90.5	158
Female	88.7	212
Ethnic Group	**89.5**	**370**
Malays	89.2	195
Chinese	97.6	41
Indians	90.7	86
Others	81.3	48
Age Group	**89.5**	**370**
30 and below	89.8	167
31 – 40	88.9	117
41 – 50	88.5	52
51 and above	91.2	34
Education *	**89.5**	**370**
None	78.4	37
Primary	84.0	100
Secondary	93.6	188
Tertiary	93.3	45
Types of Living Quarters	**89.5**	**370**
Low Cost	88.9	324
Medium and High Cost	93.5	46
Ownership Status	**89.5**	**370**
Owner	91.4	128
Tenant	88.4	242

* Significant difference at 5 per cent level
n number of cases

Respondents were also asked for their opinion on the benefits of tree planting. About 27 per cent of respondents reported that tree planting contributes to cleaner air and reduces dust and heat, whereas 5 per cent reported that tree planting contributes to aesthetic reasons such as beautifying the surroundings (Figure 4.1).

FIGURE 4.1: BENEFITS OF TREE PLANTING



Others reasons include liking for greenery, enjoy planting trees.

4.5 COMMUNITY INVOLVEMENT AND PARTICIPATION IN ENVIRONMENTAL ACTIVITIES

Involving the community in environmental programmes is key towards successful environmental improvements as without their active participation, the result would be an uphill battle. This section assesses respondents' opinions of who should maintain public areas and their perception of the importance of their own role in environmental conservation.

4.5.1 Maintenance of Public Areas

Respondents were asked whom they think should be responsible for public areas such as open field and parks. A resounding 72 per cent of the respondents report that community members should be responsible for public areas (Table 4.13). About 20 per cent of the respondents think that the Government should be responsible

for public areas followed by 9 per cent who suggest management groups, private companies, village head and owners of houses nearby.

TABLE 4.13: PERCENTAGE DISTRIBUTION OF RESPONDENTS BY WHO SHOULD MAINTAIN PUBLIC AREAS BY SELECTED CHARACTERISTICS

Characteristics	*Maintaining Public Areas*				*Total*	
	Govt.	*Community*	*Others*	*Don't know*	*Per cent*	*n*
Gender	***18.4***	***68.6***	***8.6***	***4.3***	***100.0***	***370***
Male	15.8	70.9	9.5	3.8	100.0	152
Female	20.3	67.0	8.0	4.7	100.0	202
Ethnic Group *	***18.4***	***68.6***	***8.6***	***4.3***	***100.0***	***370***
Malays	17.4	74.4	5.1	3.1	100.0	189
Chinese	34.1	58.5	2.4	4.9	100.0	39
Indians	15.1	53.5	22.1	9.3	100.0	78
Others	14.6	81.3	4.2	0.0	100.0	48
Age Group	***18.4***	***68.6***	***8.6***	***4.3***	***100.0***	***370***
30 and below	16.2	75.4	6.0	2.4	100.0	167
31 – 40	18.8	67.5	10.3	3.4	100.0	117
41 – 50	25.0	46.2	15.4	13.5	100.0	52
50 & above	17.6	73.5	5.9	2.9	100.0	34
Education	***18.4***	***68.6***	***8.6***	***4.3***	***100.0***	***370***
None	8.1	78.4	8.1	5.4	100.0	37
Primary	20.0	62.0	10.0	8.0	100.0	100
Secondary	19.7	68.1	9.0	3.2	100.0	188
Tertiary	17.8	77.8	4.4	0.0	100.0	45
Types of LQs *	***18.4***	***68.6***	***8.6***	***4.3***	***100.0***	***370***
Low Cost	16.4	69.8	9.3	4.6	100.0	309
Medium & High Cost	32.6	60.9	4.3	2.2	100.0	45
Ownership Status *	***18.4***	***68.6***	***8.6***	***4.3***	***100.0***	***370***
Owner	18.0	64.8	14.1	3.1	100.0	124
Tenant	18.6	70.7	5.8	5.0	100.0	230

* Significant difference at 5 per cent level
n number of cases

Differences do occur across ethnic group, types of living quarters and ownership status and are significant at 5 per cent level (Table 4.13). The Malays are more likely to view communities as the main driving force in environmental

protection compared to the Chinese and Indian groups. In part, varying income levels may affect the responses across groups. It is also interesting to note that respondents from low cost and who live in rented accommodation than others are more likely to suggest that public places should be taken care by communities.

4.5.2 Role in Environmental Protection

The perception of respondents' own roles in environmental protection is important. Their outlook would subsequently influence their environmental behaviour and their sense of ownership in caring for the environment.

Some 83 per cent of the respondents believe that they play an important role in environmental protection (Table 4.13). This finding highlights that many would work towards environmental protection. Classification by selected characteristics reveal that differences in perception of respondents' roles in environmental protection are significant at 5 per cent level for age, ethnic groups and gender. Higher percentages of the respondents with higher education levels believe that they play an important role in environmental conservation compared to respondents with lower education levels (Table 4.14). Malays and Chinese respondents possess higher optimism of their roles in environmental conservation compared to the others. Overall, males are more likely to believe that they play an important role than females.

TABLE 4.14: PERCENTAGE OF RESPONDENTS WHO BELIEVE THEY PLAY IMPORTANT ROLES IN ENVIRONMENTAL PRESERVATION BY SELECTED CHARACTERISTICS

Characteristic	*Role*	*n*
Gender *	**83.2**	**370**
Male	88.6	158
Female	79.2	212
Ethnic Group *	**83.2**	**370**
Malays	87.7	195
Chinese	90.2	41
Indians	76.7	86
Others	70.8	48
Age Group	**83.2**	**370**
30 and below	83.2	167
31 – 40	80.3	117
41 – 50	84.6	52
51 and above	91.2	34
Education *	**83.2**	**370**
N one	54.1	37
Primary	86.0	100
Secondary	85.1	189
Tertiary	93.3	45
Types of Living Quarters	**83.2**	**370**
Low Cost	82.4	324
Medium and High Cost	89.1	46
Ownership Status	**83.2**	**370**
Owner	82.0	128
Tenant	83.9	242

* Significant difference at 5 per cent level, n number of cases.

4.6 INFORMATION ON ENVIRONMENTAL ISSUES

Initiatives to find out about environmental issues reflect the respondents' interest on environmental issues. Overall, approximately 71 per cent of the respondents take the initiative to find out about environmental issues. The differences across responses in education, ethnic group and ownership status are significant at 5 per cent level (Table 4.15).

Respondents of tertiary education exhibit a high interest to obtain environmental information compared to respondents with lower educational level. The Chinese respondents are most likely to take the initiative to find out about environmental issues followed by Malays. Owners are more keen to find out about environmental issues compared to tenants. In turn, this may also reflect differences in income levels.

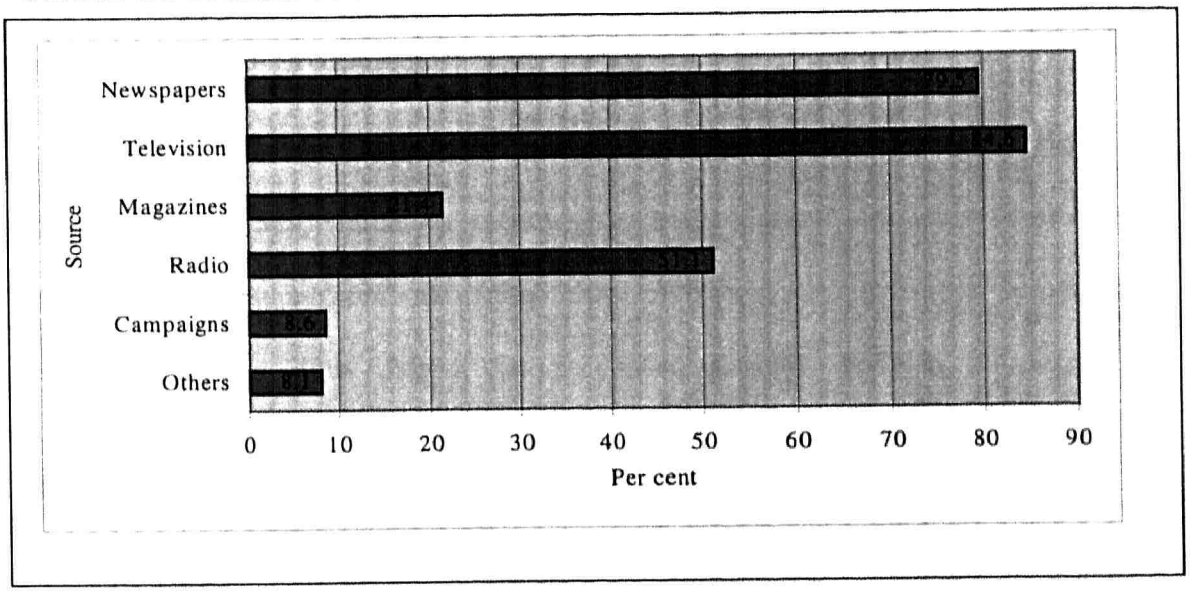
TABLE 4.15: PERCENTAGE OF RESPONDENTS WHO WOULD TAKE THE INITIATIVE TO FIND OUT ABOUT ENVIRONMENTAL INFORMATION

Characteristics	*Take Initiative*	*n*
Gender	**70.8**	**370**
Male	72.8	212
Female	69.3	158
Ethnic Group *	**70.8**	**370**
Malay	75.4	195
Chinese	80.5	41
Indians	68.6	86
Others	47.9	48
Age Group	**70.8**	**370**
30 and below	67.7	167
31 – 40	71.8	117
41 – 50	71.2	52
51 and above	82.4	34
Education *	**70.8**	**370**
None	51.4	37
Primary	58.0	100
Secondary	76.6	188
Tertiary	91.1	45
Types of Living Quarters	**70.8**	**370**
Low Cost	69.8	324
Medium and High Cost	78.3	36
Ownership Status *	**70.8**	**370**
Owner	77.3	128
Tenant	67.4	242

* Significant at 5 per cent level.
n number of cases

Having found that a high proportion would take the initiative to find out environmental information, it is necessary to identify their main sources of information. It is clear that the majority of the respondents identify television as their main source of environmental information (Figure 4.2). The next popular source of information is newspapers followed by radio and magazines. Other sources of information include campaigns, friends and the internet. This result is consistent with the findings of a national study on public awareness of science and technology in Malaysia (Ministry of Science and Technology, 1996).

FIGURE 4.2: SOURCES OF ENVIRONMENTAL INFORMATION (MULTIPLE ANSWERS)



4.7 CONCLUSION

The majority of respondents link environmental actions to ensuring cleanliness of their surroundings and compounds. This shows that not many are concerned about environmental issues beyond their homes. At the same time environmental awareness is low as most respondents are concerned that pollution effects would cause harm to their health and only a small proportion are concerned with the environmental impacts of pollution. The majority of respondents do not know the outcome of household waste and few are aware that household wastes could be recycled.

Respondents' attitude towards environmental matters is evidenced by the low percentage of respondents that adopt environmental criteria when buying items, the importance of buying new items and bringing basket when shopping as well as reporting on open burning. Nevertheless, there are positive practices by the respondents as reflected in terms of ensuring their vehicles do not emit excessive smoke.

However, the study found that the communities have a highly positive outlook on the potential of environmental initiatives and perception of community participation. A high percentage of the respondents are also confident that they play an important role in envrionmental preservation.

Most of the respondents report general environmental reasons such as clean air and water as their motivation for encouraging environmental activities while a high percentage of the respondents think that environmental activities should be encouraged. The study found that the most popular medium for acquiring environmental information is through television followed by newspapers and radio.