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香港中環花園道美利大廈 20 樓 2006 室 • 電話: 848 2551 傳頁機: 84

(ACE Paper 2/97)
for information

PUBLIC SUPPORT FOR ENVIRONMENTAL PROTECTION IN HONG KONG *

Final Report

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January 1997

^{*} The financial support for this research project was provided by the Faculty of Social Science at The Chinese University of Hong Kong. At the time when the bulk of the research was conducted, the Principal Investigator was a Visiting Assistant Professor in the Department of Sociology at The Chinese University of Hong Kong. He joined the Department of Geography and Geology at The University of Hong Kong in September 1996.

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1. Introduction

The primary objective of this research project is to improve our understanding of the *degree* of public support for the cause of environmental protection in Hong Kong. We have no knowledge thus far on the *degree* to which Hong Kong residents are committed to environmental protection. The results from this project thus help deepen our environmental knowledge and they would also provide an important benchmark—the first of its kind in Hong Kong—upon which the findings from future studies on social and environmental values in the city could be compared with.

The project is also designed to shed light on several poorly understood aspects of the public's perception of the role and effort of the government, the private sector, and the environmental groups in addressing environmental pollution problems in the territory. Again, we have limited knowledge on the public's assessment of these three major social actors' environmental actions. The research findings on these aspects would help clarify the social context within which environmental policies and environmental actions function.

Two caveats need to be noted, however, in reading and interpreting the research results. First, the method adopted to examine the *extent* of public support for environmental protection in Hong Kong is relatively new. Questions concerning the validity and reliability of the research instrument as well as the appropriateness of applying a research instrument originally developed in North America to a highly dynamic and transitional society such as ours would need to be examined carefully, at a later date, to identify the sources and extent of biases, if any.

Secondly, while the survey results have made an important contribution to our understanding of the *degree* of public support for environmental protection in Hong Kong, the same survey has simultaneously produced results that have helped reveal the depth and breath of our knowledge gaps regarding environmentalism, environmental perception, and environmental communication in Hong Kong. The research findings, therefore, actually constitute in themselves an agenda of further inquiries that would help improve our understanding of many critical but poorly understood questions of importance to researchers, environmentalists, professionals and policy-makers concerned with ameliorating the territory's environmental decline.

2. BACKGROUND

Government policies designed to address environmental problems are unlikely to succeed without broad-based public support, but the *degree* of such public support among Hong Kong residents is poorly understood. In Hong Kong, almost all of the relevant public opinion research regarding environmental problems conducted in recent years have focused on *what* people think about environmental problems without asking *how deeply they are committed* to environmental protection. For instance, an overwhelming majority (> 90 percent) of the respondents in the 1995 Survey on Community Attitudes to the Environment believed that the disposal of plastic bags, air pollution, and water pollution in Hong Kong were serious or very serious.¹ The same survey, however, did not ask the respondents the question on whether they are sufficiently concerned about these environmental problems that they are willing to make financial sacrifices and undertake other actions in order to help protect the environment.

Indeed, practically every citizen in all the societies included in the 1990-1993 World Values Survey was "favorable" to the cause of environmental movements. However,

... these responses do not tell us anything about how deeply this attitude is held. It is easy to agree with this question because it does not ask whether the respondent is willing to make any sacrifice for the sake of environmental purity. The overwhelming approval of the environmental movement that these responses reveal may reflect nothing more than lip service. How solid is public support for environmental policies that may impose real costs?²

A series of questions included in the World Values Survey were designed specifically to address this question: To what extent are the respondents willing to make direct financial sacrifices to protect the environment? The responses to those questions were particularly revealing: While the vast majority of the respondents in most countries approve of environmental protection in general, "they are far more reluctant to support it when questions are raised about how much they are willing to pay."

³ Ibid., p. 59.

¹ Social Science Research Centre, 1995, "Survey on Community Attitudes to the Environment, 1995, Final Report," Submitted to the Education Working Group of the Environmental Campaign Committee, October, p. 11.

² Inglehart, Ronald, 1995, "Public Support for Environmental Protection: Objective Problems and Subjective Values in 43 Societies," *Political Science and Politics*, Vol. 28, No. 1, p. 58.

3. OBJECTIVES AND METHODOLOGY

The major objective of this research project is to improve our understanding of the degree of public support for the cause of environmental protection in Hong Kong by asking the question: To what extent are Hong Kong residents willing to make direct personal financial sacrifices in order to prevent environmental pollution? The project is also designed to elucidate several poorly understood aspects of the public's perception of the role and performance of the government, the private sector, and the environmental groups in dealing with pollution problems in Hong Kong.

Using a structured, close-ended questionnaire that contained a total of 23 questions, we conducted a territory-wide telephone survey designed to yield responses that could help reveal the *relative* willingness of the public to pay an economic price to protect the environment, as well as the public's perception of the role of the government, the private sector and the environmental groups in environmental matters.⁴ The questionnaire also included several questions that would reveal the respondents' perception of the environmental conditions in the territory and their perception of the impact of pollution problems on their quality of life and health.

With regard to the specific task of measuring the *degree* of public support for environmental protection, several key questions, taken in slightly modified form from Inglehart's work, were formulated to ask whether the respondents "strongly agree/agree" or "strongly disagree/disagree" with the following four statements:

- (i) "I would be willing to give up a part of my monthly income if I were sure that the money would be used to correct environmental pollution problems."
- (ii) "I would agree to an increase in taxes if the money is specifically used to correct environmental pollution problems."
- (iii) "The government should reduce environmental pollution, but it should not cost me any money." And
- (iv) "Protecting the environment and fighting pollution is less urgent than often suggested."

Our research followed Inglehart's method by classifying those respondents as "high" on their support for environmental protection if they "agree" or "strongly agree" with the first two

⁴ A complete set of the questionnaire is attached to this report.

statements and "disagree" or "strongly disagree" with the last two statements. The research results on this specific measure, which Inglehart referred to as the "Environmental Protection Index" (EPI), will help enhance our understanding of the *degree* of public support for environmental protection in Hong Kong.

The value of the EPI can range, theoretically speaking, from anywhere between 0 percent (the lowest possible score) to 100 percent (the highest possible score). A country (or a city) awarded a high EPI score means that a large proportion of the respondents in that country have consistently expressed a "high" degree of support for environmental protection. A high EPI score is then taken as evidence for a high degree of public support for environmental protection in that country. To the contrary, a country (or city) with a low EPI score suggests a low degree of public support for environmental protection.

The Hong Kong Institute of Asia-Pacific Studies at The Chinese University of Hong Kong was commissioned to conduct telephone interviews to collect firsthand data on the 23 questions. A random sampling of residential telephone numbers, which were computergenerated, were used to produce the sample. The interviews were conducted from 6 pm to 10 pm during the five-day period of May 30-June 3, 1996. A total of 1,506 Hong Kong residents aged 18 and over, out of 2,502 eligible respondents contacted, were successfully interviewed.

4. RESEARCH FINDINGS

Profile of survey respondents

Out of the 1,506 respondents successfully interviewed, 46.5 percent were men and 53.5 percent women. About half (49.9 percent) of them lived in private housing as owners or renters, and 40.3 percent resided in public housing units. Around three-tenths (30.9 percent) of the respondents were between the age of 18-29, about one-half (49.8 percent) between 30-49 years old, and 16.8 percent aged 50 years or older. Almost six-tenths (59.5 percent) of the respondents were secondary school graduates, but around one-fifth (21.8 percent) have only completed primary school education and only 16.6 percent have obtained university or higher degrees. In terms of individual monthly income level, about one-third (31 percent) were earning between HK\$8,000-17,999, but close to half (47.4 percent) were making less than HK\$7,999 and only 12.4 percent were bringing in HK\$18,000 or more (Table 1).

Table 1. Profile of Survey Respondents (%)

Profile	(n=1506)
Gender	
Male	46.5
Female	53.5
Total	100.0
Housing status	
Public housing	40.3
Private housing	49.9
Others*	9.8
Total	100.0
Age	
18-29	30.9
30-49	49.8
50+	16.8
Others*	2.5
Total	100.0
Education	
Primary	21.8
Secondary	59.5
College +	16.6
Others*	2.1
Total	100.0
Income (HK\$/month)	
0-7,999	47.4
8,000-17,999	31.0
18,000+	12.4
Others*	9.2
Total	100.0

^{*} Others include "no answer" and other categories.

The degree of public support for environmental protection

Compared with 39 other countries and cities in the world, Hong Kong was ranked at the very bottom of the list in terms of the *degree* of public support for environmental protection. The "Environmental Protection Index" (EPI) for Hong Kong, following Inglehart's method in calculating our survey results, was found to be at a dismal 19 percent (Figure 1). In other words, only 19 percent of the respondents in our survey have consistently expressed a "high" degree of support for environmental protection in responding to the key questions asked in the interview. In contrast, the Scandinavian countries, which were ranked at the top of the list, have yielded the highest EPIs: Sweden at 69 percent, Denmark at 65 percent and Norway at 59 percent. Even large developing countries in Asia such as China and India have recorded scores of EPIs at 52 percent and 45 percent respectively.

Now, let us take a closer look at how the respondents reacted to each of the four Inglehart statements. First, and interestingly, a great majority of the respondents (77 percent)⁶ in our survey said that they were willing to give up part of their income if they were sure that the money would be used to prevent environmental pollution (Figure 2). On the basis of this extent of willingness to sacrifice for environmental protection, Hong Kong is ranked at around the middle of the list among the same 39 countries and cities. On this particular question, the level of positive response in Hong Kong closely resembles that in China, which recorded a 78 percent affirmative response rate. Moreover, Hong Kong's score on this specific question turns out to be higher than that of Japan and Britain (both at 68 percent) as well as France (61 percent) and the formerly West Germany (52 percent).

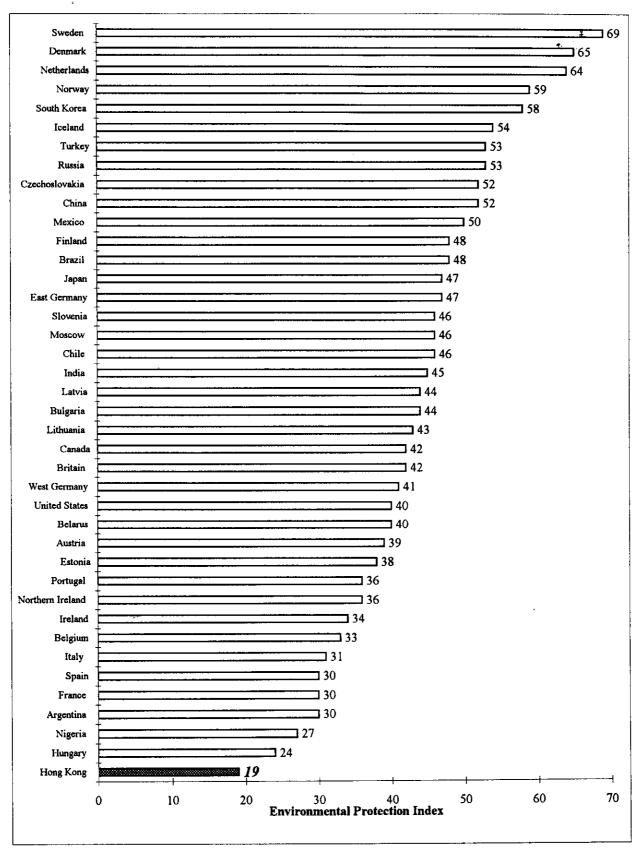
Then, when the respondents were asked another question that seems to be a mirror image of the one shown in Figure 2, then, the level of agreement drops substantially. When asked whether they agree that "the government has to reduce environmental pollution, but it should not cost me any money," only 44 percent of the respondents expressed their willingness to make sacrifices for environmental protection by *disagreeing* with this statement (Figure 3). As Inglehart has explained:

⁵ Following Inglehart's method of calculating the EPI, only respondents who have expressed an opinion are included in the calculation of the percentage. Respondents who "do not have an opinion" or "refuse to answer," as well as those who found the question "difficult to comment," are excluded from the process of calculation. Personal communication with Inglehart, June 1996.

⁶ Again, respondents who "do not have an opinion" or "refuse to answer," as well as those who found the question "difficult to comment," are excluded in the calculation of the percentage.

Figure 1. Public Support for Environmental Protection

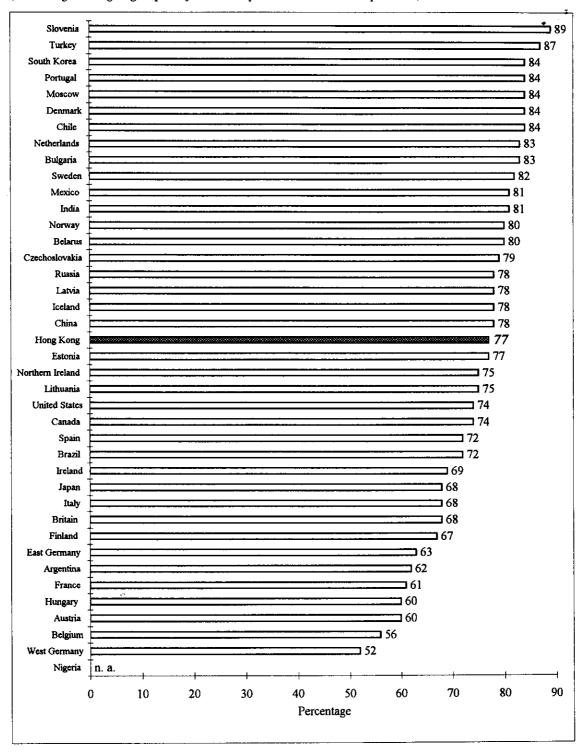
(Percentage scoring "high" on the Environmental Protection Index)



Source: Except for Hong Kong, the above figures were taken from Ingelhart, 1995, p. 61.

Figure 2. Willingness to Sacrifice for Environmental Protection

(Percentage willing to give part of income to prevent environmental pollution)



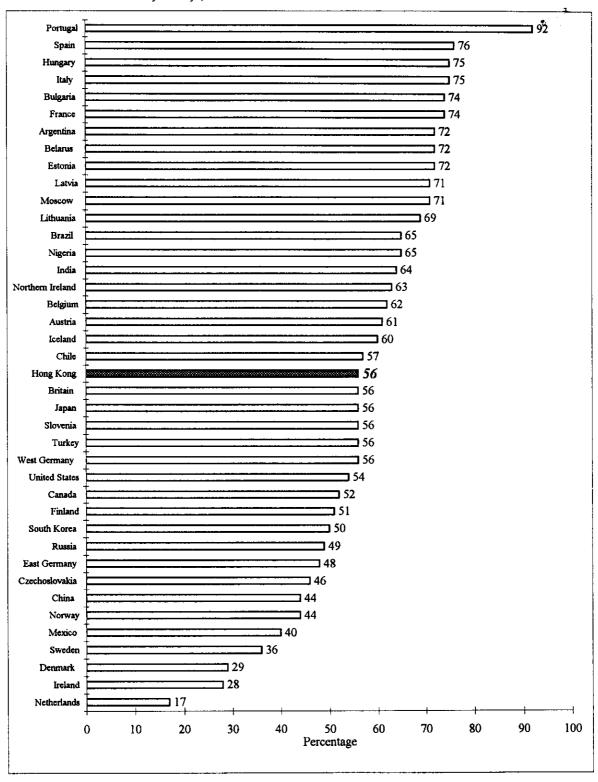
n. a. = not available

Note: Respondents who "do not have an opinion" or "refuse to answer," as well as those who found the question "difficult to comment," are excluded in the calculation of the percentage.

Source: Except for Hong Kong, the above figures were provided to the author through correspondence by Professor Inglehart in June 1996.

Figure 3. Unwillingness to Sacrifice for Environmental Protection

(Percentage agreeing that "the government has to reduce environmental pollution, but it should not cost me any money")



Note: Respondents who "do not have an opinion" or "refuse to answer," as well as those who found the question "difficult to comment," are excluded in the calculation of the percentage.

Source: Except for Hong Kong, the above figures were taken from Inglehart, 1995, p. 60.

Like the preceding question, this version asks whether the respondent is willing to make financial sacrifices in order to protect the environment, but unlike the preceding question, it does so in a format which makes it easier to say "No;" and by changing polarity, it minimizes the impact of response set.⁷

Inglehart found that "[t]his simple change of format has a significant effect on registered levels of support for environmental protection." In our case, compared with the response to the earlier question, the level of public support for environmental protection in Hong Kong declined by about 33 percent. Globally, this decline was found to be about 20 percent.

Next, on the question of perception of the urgency of environmental pollution problems in Hong Kong, some of the respondents have seemingly contradicted themselves. When asked simply to rate the degree of urgency of environmental pollution problems in Hong Kong, 83 percent of the respondents rated such problems as urgent or very urgent. However, when asked whether they agree with the statement that "environmental pollution is less urgent than often suggested," 39 percent of those interviewed gave an affirmative response (Figure 4). Hong Kong, thus, ranks almost at the top of the list which shows the percentages of respondents who are *un*willing to accept that environmental pollution is an urgent problem.

Finally, when asked whether they agree or disagree with the statement: "I would be willing to pay more taxes if I were certain that the money would be used to prevent environmental pollution," only 44 percent of the respondents in Hong Kong expressed their willingness to make such sacrifice to prevent environmental pollution (Figure 5). Globally, 65 percent said they would agree to an increase in taxes to prevent environmental pollution. With regard to this specific question, then, Hong Kong ranks almost at the bottom of the list. Only Belgium and Hungary have shown a lower level of agreement (at 41 percent and 35 percent respectively).

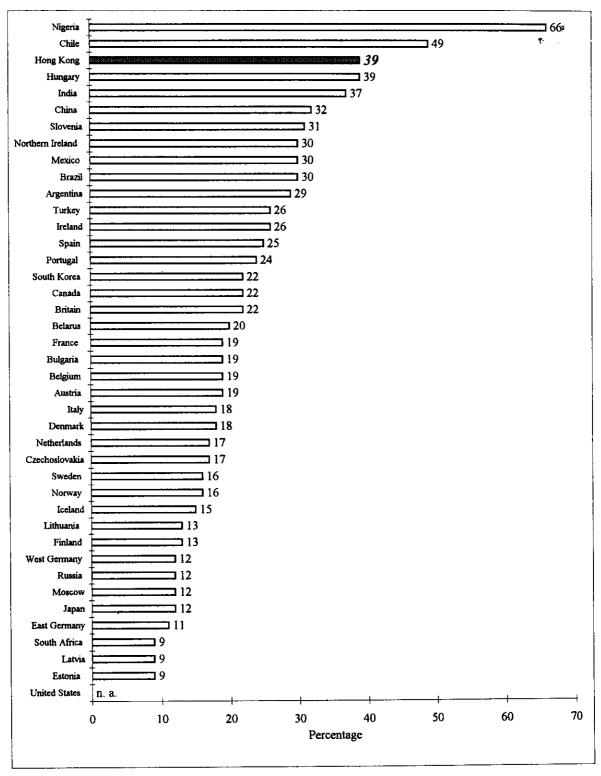
Respondents' perception of environmental pollution problems in Hong Kong
When asked to rate the degree of urgency of environmental pollution problems in Hong Kong,
83.2 percent of the respondents considered these problems as "urgent" (Table 2). Younger

⁷ Inglehart, 1995, p. 59.

B Ibid.

Figure 4. Unwillingness to Accept Environmental Pollution is an Urgent Problem

(Percentage agreeing that "environmental pollution is less urgent than often suggested")



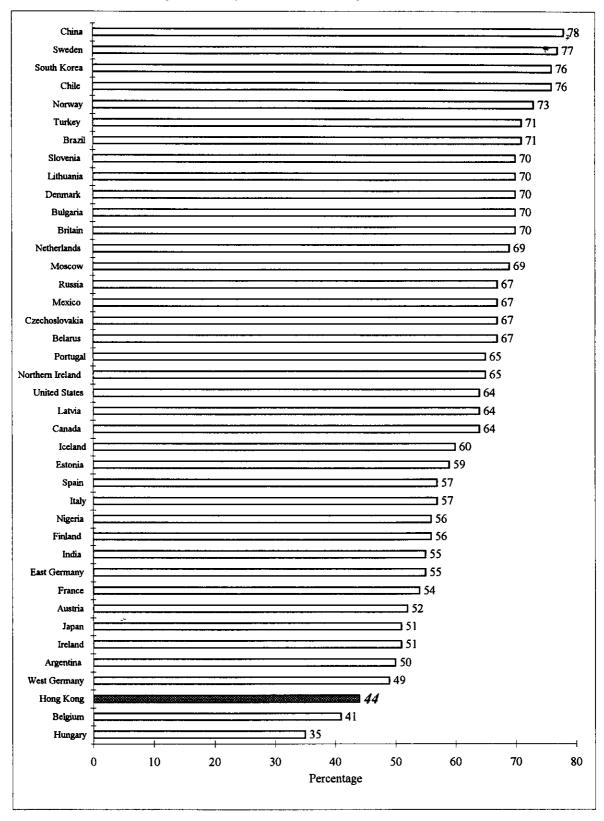
n. a. = not available

Note: Respondents who "do not have an opinion" or "refuse to answer," as well as those who found the question "difficult to comment," are excluded in the calculation of the percentage.

Source: Except for Hong Kong, the above figures were provided to the author through correspondence by Professor Inglehart in June 1996.

Figure 5. Willingness to Sacrifice for Environmental Protection

(Percentage willing to pay higher taxes to prevent environmental pollution)



Note: Respondents who "do not have an opinion" or "refuse to answer," as well as those who found the question "difficult to comment," are excluded in the calculation of the percentage.

Source: Except for Hong Kong, the above figures were taken from Inglehart, 1995, p. 60.

Table 2. Perceptions of the Degree of Urgency of Environmental Pollution Problems in Hong Kong by Survey Respondents (%)

	How would you rate the degree of urgency of environmental pollution problems in Hong Kong?			
	Urgent	Not Urgent	No Opinion	(Total)
Total	83.2	10.4	6.5	1506
Male	81.0	12.9	6.1	(700)
Female	85.0	8.9	6.1	(806)
Age				
18 - 29	88.8	7.3	3.9	(465)
30 - 49	82.8	10.8	6.4	(750)
50 +	74.9	14.4	10.7	(291)
Education	· · •			
Primary	77.5	13.1	9.3	(236)
Secondary	84.7	9.8	5.5	(896)
College	88.7	7.8	3.5	(239)
Income				
\$ 0 - 7,999	85.0	8.7	6.3	(127)
\$ 8,000 - 17,999	86.5	8.6	4.9	(466)
\$ 18,000 +	82.9	12.3	4.8	(187)

Table 3. Perceptions of an Environmental Crisis Looming in the Near Future in Hong Kong by Survey Respondents (%)

	Are you worried that Hong Kong will face an environmental crisis in the near future?				
•	Worried	Not Worried	No Opinion	(Total)	
Total	62.2	27.5	10.3	1506	
Male	55.9	34.1	10.0	(700)	
Female	67.7	21.7	10.5	(806)	
Age					
18 - 29	72.7	23.4	3.9	(465)	
30 - 49	61.5	29.5	9.1	(750)	
50 +	47.4	28.9	23.7	(291)	
Education					
Primary	57.2	27.5	15.3	(236)	
Secondary	65.0	27.9	7.1	(896)	
College	69.9	24.3	5.9	(239)	
Income					
\$ 0 - 7,999	65.4	23.6	11.0	(127)	
\$ 8,000 - 17,999	65.9	26.8	7.3	(466)	
\$ 18,000 +	63.1	31.0	5.9	(187)	

people (18-29) and those with college education, however, were found to be more receptive than other groups to the urgency of environmental pollution problems. As also shown in Table 2, 88.8 percent of the younger respondents have rated the pollution problems as urgent, as compared with 82.8 percent of the middle-aged group (30-49) and 74.9 percent of the oldest group (50+) who held the same view. Moreover, 88.7 percent of the college-educated respondents have rated the pollution problems as urgent, but such a view was shared by only 84.7 percent of those with secondary school education and 77.5 percent of those with primary school education. The income level of the respondents did not seem to have any influence on the pattern of perception on this question.

When the respondents were asked whether they were worried that Hong Kong would face an environmental crisis in the near future, the level of the sense of urgency dropped. More than one-quarter (27.5 percent) of the respondents said that they were not worried about any looming environmental crisis, although 62.2 percent of the respondents believed otherwise (Table 3). Again, the income level of the respondents did not have any influence on the perception pattern on this question, but the respondents' gender, age and education level have had a major influence on the perception pattern. First, a much larger proportion of female respondents (67.7 percent) than male respondents (55.9 percent) were worried about an environmental crisis looming in the near future. Secondly, whereas only 47.4 percent of the oldest group and 61.5 percent of the middle-aged group were worried about an imminent environmental crisis, 72.7 percent of the younger respondents expressed such a worry. Thirdly, almost 70 percent of the college-educated respondents declared this anxiety, but only 57.2 percent and 65 percent of those with primary and secondary education, respectively, shared such a pessimistic view.

Interestingly, when asked to rate of the degree of seriousness of environmental pollution problems in their own districts, only about one-third of the respondents (34.6 percent) considered such problems as serious matters at that spatial scale (Table 4). The respondents' age, education level and income level did not have any major discernible influence on the perception pattern on this question, although a larger proportion of male respondents (37.7 percent) than female respondents (30.1 percent) found pollution problems in their districts as serious.

Table 4. Perceptions of the Degree of Seriousness of Environmental Pollution Problems in Own Districts by Survey Respondents (%)

How would you rate the degree of seriousness of the environment pollution problems in your district? No Opinion Serious Not Serious (Total) 62.2 3.3 1506 Total 34.6 (700)58.6 3.7 Male 37.7 66.6 3.2 (806)**Female** 30.1 Age (465)18 - 2932.9 65.6 1.5 (750)30 - 49 34.9 62.7 2.4 8.2 (291)50 +36.4 55.3 Education 34.7 63.1 2.1 (236)**Primary** (896)63.2 2.1 34.7 Secondary 1.3 (239)College 35.1 63.6 Income (127)\$0-7,999 36.2 63.0 0.8 (466)32.0 66.3 1.7 \$ 8,000 - 17,999 (187)59.9 1.1 \$ 18,000 + 39.0

Table 5. Perceptions of the Most Serious Environmental Pollution Problems in Hong Kong by Survey Respondents (%)

Hong Kong faces the following environmental pollution problems: air pollution, noise pollution, water pollution and solid waste. Which of these problems do you consider as the most serious?

	problems do you consider as the most serious?					
	Air Pollution	Noise Pollution	Water Pollution	No Opinion	(Total)	
Total	37.8	11.3	17.1	6.8	1506	
Male	39.3	11.6	19.1	6.7	(700)	
Female	36.6	11.0	15.3	7.0	(806)	
Age ~						
18 - 29	49.0	9.5	18.9	1.7	(465)	
30 - 49	36.1	11.2	16.8	6.9	(750)	
50 +	24.4	14.4	14.8	15.1	(291)	
Education						
Primary	25.4	8.9	18.6	8.5	(236)	
Secondary	40.6	11.9	16.1	4.9	(896)	
College	50.2	9.6	19.7	5.0	(239)	
Income						
\$ 0 - 7,999	*	*	*	*	(127)	
\$ 8,000 - 17,999	*	*	*	*	(466)	
\$ 18, 000 +	*	*	*	*	(187)	

^{*} The data for these cells are temporarily lost due to a computer error. These data will be included in the next edition of the report.

Finally, the following environmental pollution problems were ranked by the respondents, in descending order, as the "most serious" problem: air pollution (37.8 percent), solid waste (26.9 percent), water pollution (17.1 percent), and noise pollution (11.3 percent) (Table 5). Among those who have considered air pollution as the most serious problem, the respondents' age and education again have a very strong influence on the perception pattern. Almost half of the younger respondents (49 percent) believed air pollution to be the most serious problem, but only 24.4 percent and 36.1 percent of the oldest group and the middle-aged group, respectively, agreed with their younger cousins. As shown further in Table 5, whereas half of the college-educated respondents (50.2 percent) rated air pollution problem as the most serious offense, only one-quarter (25.4 percent) and four-tenths (40.6 percent) of those with primary education and secondary education, respectively, came to the same assessment.

Respondents' own assessment of their concern for environmental pollution problems and of the impacts of such problems on their quality of life and health

Not surprisingly, an overwhelming majority of the respondents (83.6 percent) stated that they were concerned about the environmental pollution problems in Hong Kong (Table 6). No major influence on the pattern of perception on this question, stemming from the respondents' gender, age, education and income level, can be discerned.

On the question of the impacts of environmental pollution problems, an overwhelming majority of the respondents (80.2 percent) believed that their quality of life had been adversely affected by environmental pollution problems (Table 7) and a similar proportion of respondents (78.8 percent) thought their health had been adversely affected (Table 8). Both the age and educational level of the respondents appeared to have some influence on the patterns of perception on these two questions. Taking the perceived impact on health as an example, whereas 83 percent of the younger respondents and 81.2 percent of the middle-aged group thought their health had been affected by pollution problems, only 65.9 percent of the oldest group shared such a view (Table 8).

Among those respondents who believed their quality of life and health had been "seriously affected" by pollution problems, however, the respondents' income level appear to have a major influence on the perception patterns. For instance, of the higher-income respondents (earning more than HK\$ 18,000 per month), 26.7 percent believed that environmental

Table 6. Perceptions of Their Own Concern for Environmental Pollution Problems in Hong Kong by Survey Respondents (%)

	How concerned are you about environmental pollution problems in Hong Kong?					
	Concerned	Not Concerned	No Opinion	(Total)		
Total	83.6	11.4	5	1506		
Male	82.3	12.7	5.0	(700)		
Female	84.7	10.3	5.0	(806)		
Age				_		
18 - 29	79.6	15.5	4.9	(465)		
30 - 49	85.9	9.7	4.4	(750)		
50 +	84.2	9.3	6.5	(291)		
Education						
Primary	86.0	8.5	5.5	(236)		
Secondary	83.3	11.9	4.8	(896)		
College	85.8	11.7	2.5	(239)		
Income						
\$ 0 - 7,999	86.6	10.2	3.1	(127)		
\$ 8,000 - 17,999	83.9	12.4	3.6	(466)		
\$ 18,000 +	86.6	9.1	4.3	(187)		

Table 7. Perceptions of Pollution Problems' Adverse Impacts on Their Own Quality of Life by Survey Respondents (%)

	To what extent do you think your quality of life has been adversely affected by						
	environmental pollution problems?						
	Seriously				T.		
	Affected	Affected	Not Affected	No Opinion	(Total)		
Total	21.8	58.4	16.1	3.7	1506		
Male	19.9	59.3	16.4	4.4	(700)		
Female	23.6	57.6	15.8	3.1	(806)		
Age							
18 - 29	22.4	62.8	12.7	2.2	(465)		
30 - 49	21.3	60.8	14.0	3.9	(750)		
50 +	22.3	45.0	26.8	5.8	(291)		
Education							
Primary	21.6	53.8	20.3	4.2	(236)		
Secondary	20.6	62.4	13.4	3.6	(896)		
College	28.9	59.0	9.6	2.5	(239)		
Income							
\$ 0 - 7,999	15.7	67.7	12.6	3.9	(127)		
\$ 8,000 - 17,999	24.5	61.6	10.7	3.2	(466)		
\$ 18,000 +	26.7	59.4	11.8	2.1	(187)		

Table 8. Perceptions of Pollution Problems' Adverse Impacts on Their Own Health by Survey Respondents (%)

	To what extent do you think your health has been adversely affected by environmental pollution problems?					
	Seriously	environmen	iai poliulion probl	ems: v		
	Affected	Affected	Not Affected	No Opinion	(Total)	
Total	23.6	55.2	19.1	2.1	1506	
Male	19.6	59.7	18.9	1.9	(700)	
Female	27.0	51.4	19.4	2.2	(806)	
Age						
18 - 29	25.4	57.6	15.5	1.5	(465)	
30 - 49	23.2	58.0	17.1	1.7	(750)	
50 +	21.6	44.3	30.2	3.8	(291)	
Education	· · · · · · · · · · · · · · · · · · ·	-	•			
Primary	20.8	49.6	27.1	2.5	(236)	
Secondary	23.9	57.8	16.6	1.7	(896)	
College	29.7	56.5	13.0	0.8	(239)	
Income						
\$ 0 - 7,999	18.1	59.1	20.5	2.4	(127)	
\$ 8,000 - 17,999	27.0	57.9	13.7	1.3	(466)	
\$ 18,000 +	25,1	59.4	14.4	1.1	(187)	

Table 9. Perceptions of Adequacy of Governmental Actions in Dealing With Environmental Pollution by Survey Respondents (%)

-	Do you thi	ink that government	al actions in dea	ling with			
	environmental pollution have been adequate?						
	Adequate	Not Adequate	No Opinion	(Total)			
Total	62.2	27.5	10.3	1506			
Male	55.9	34.1	10.0	(700)			
Female	67.7	21.7	10.5	(806)			
Age							
18 - 29	16.3	75.9	7.7	(465)			
30 - 49	20.3	65.9	13.9	(750)			
50 +	24.7	56.7	18.6	(291)			
Education	•						
Primary	22.0	59.3	18.6	(236)			
Secondary	18.1	70.5	11.4	(896)			
College	21.3	71.1	7.5	(239)			
Income							
\$ 0 - 7,999	15.0	72.4	12.6	(127)			
\$ 8,000 - 17,999	16.3	73.8	9.9	(466)			
\$ 18,000 +	21.4	69.0	9.6	(187)			

pollution problems had downgraded their quality of life. The corresponding figure for the lower-income group (earning less than HK\$ 8,000 per month) was only 15.7 percent (Table 7).

Respondents' perception of governmental actions in dealing with environmental problems

Overall speaking, 62.2 percent of the respondents thought that governmental actions in dealing with environmental pollution problems had been adequate, 27.5 percent believed otherwise, and 10.3 percent had no opinion on this question (Table 9). The younger respondents, however, seemed to have a more favorable perception than the older respondents on this issue: whereas 56.7 percent of the oldest group considered governmental actions adequate, more than three-quarters (75.9 percent) of the youngest group believed so.

When asked the extent to which they felt confident that the Hong Kong government's commitment to improve the environment in the next three to five years, however, 57.1 percent of all the respondents said that they did not feel confident about such a prospect (Table 10). Moreover, the younger respondents turned out to be the most skeptical about the government's future commitment: about 47.1 percent of the oldest group expressed their lack of confidence, but more than six-tenths (60.2 percent) of the youngest group shared such skepticism (Table 10). Furthermore, the higher-educated group also seemed to be more pessimistic than the less-educated respondents on such a prospect.

Finally, when the respondents were asked the question of whether the government should spend more or less money to reduce environmental pollution, 67.7 percent believed the government should commit more resources, 4.6 percent believed otherwise, and almost one-quarter (23.4 percent) of the respondents said that they did not have an opinion (Table 11). Among those who were in favor of allocating additional resources to tackle pollution problems, the respondents' age and educational level appeared to have some strong influence on the response pattern. The younger and the more educated groups tended to be more affirmative than other groups in showing support for increased government expenditure. For instance, whereas 58.1 percent of the oldest group agreed that extra spending was needed, almost eight-tenths (79.1 percent) of the youngest respondents supported such a move (Table 11).

Table 10. Perceptions of Hong Kong Government's Commitment to Improve the Environment in the Next Three to Five Years by Survey Respondents (%)

To what extent do you feel confident about the Hong Kong government's commitment to improve the environment in the next * three to five years?

	Confident	Not Confident	No Opinion	(Total)
Total	29.9	57.1	13.1	1506
Male	30.4	56.3	13.3	(700)
Female	29.4	57.7	12.9	(806)
Age				/ / / /
18 - 29	31.2	60.2	8.6	(465)
30 - 49	27.3	58.9	13.7	(750)
50 +	34.4	47.1	18.6	(291)
Education				
Primary	28.0	54.2	17,8	(236)
Secondary	29.8	58.3	11.9	(896)
College	27.2	64.4	8.4	(239)
Income				
\$ 0 - 7,999	33.1	54.3	12.6	(127)
\$ 8,000 - 17,999	23.6	64.6	11.8	(466)
\$ 18, 000 +	29.9	61.5	8.6	(187)

Table 11. Perceptions of Government's Expenditure on Environmental Pollution by Survey Respondents (%)

	Should the	Hong Kong govern	ment spend m	ore or less money	to reduce	
	environmental pollution?					
=		Remain	-			
	Less	Unchanged	More	No Opinion	(Total)	
Total	4.6	4.2	67.7	23.4	1506	
Male	4.7	4.3	68.4	22.6	(700)	
Female	4.6	4.2	67.1	24.1	(806)	
Age						
18 - 29	2.4	4.3	79.1	14.2	(465)	
30 - 49 ~	4.9	4.3	64.4	26.4	(750)	
50 +	7.6	4.1	58.1	30.2	(291)	
Education		,				
Primary	7.2	4.7	63.1	25.0	(236)	
Secondary	4.2	4.0	69.4	22.3	(896)	
College	1.7	5.0	75.7	17.6	(239)	
Income						
\$ 0 - 7,999	4.7	2.4	70.1	22.8	(127)	
\$ 8,000 - 17,999	3.4	3.6	70.6	22.3	(466)	
\$ 18,000 +	2.1	7.5	68.4	21.9	(187)	

Respondents' perception of environmental groups

In order to find out the respondents' perception of environmental groups, each respondent was asked whether he/she agreed or disagreed with each of the following two statements: (a) "The environmental pollution problems in Hong Kong are not as that urgent as suggested by the environmentalists" and (b) "Environmentalists care more about the state of the natural environment than the livelihood of fellow citizens."

About one-third (33.2 percent) of the respondents said that they agreed with the first statement, but about one-half (50.8 percent) of them said that they disagreed with such a remark (Table 12). A larger proportion of the older and the less-educated respondents showed their skepticism about the environmentalists than the younger and more-educated groups. Whereas 28.6 percent of the youngest respondents indicated that they were skeptical about the environmentalists, almost four-tenths (39.5 percent) of the oldest group expressed similar thought. Moreover, while only around one-quarter (25.9 percent) of the college-educated respondents agreed with the first remark, up to 41.5 percent of those with primary education believed the environmentalists had exaggerated the urgency of the pollution problems (Table 12).

With regard to the second statement, more than six-tenths (61.6 percent) of the respondents gave an affirmative answer and only one-quarter (24.8 percent) of them contested the remark (Table 13). Among those who disagreed with the statement, the respondents' age and educational level appeared to have strong effect on the response pattern: while only 16.8 percent of the oldest group refuted the proposition, more than three-tenths (31.6 percent) of the youngest respondents showed their objection. Moreover, whereas only 18.6 percent of the primary school graduates disagreed with the statement, up to 31.8 percent of the college-educated group challenged the validity of such an assertion (Table 13).

Respondents' perception of the role of industrial and commercial sectors in addressing environmental pollution problems

Only one question was asked to help determine the respondents' perception of the role of the industrial and commercial organizations in addressing pollution problems. The respondents were asked whether they agreed or disagreed with this statement: "Hong Kong's industrial

Table 12. Perceptions of Environmental Groups' Assessment of Environmental Pollution Problems by Survey Respondents (%)

"The environmental pollution problems in Hong Kong are not as that urgent as suggested by the environmentalists." Disagree No Opinion Agree (Total) Total 33.2 50.8 16.1 1506 Male 37.6 46.9 15.6 (700)Female (806)29.4 54.2 16.4 Age 18 - 29 28.6 64.7 6.7 (465)30 - 49 33.6 48.5 17.9 (750)50 + 39.5 34.4 26.1 (291)Education **Primary** 41.5 39.4 19.1 (236)Secondary 32.6 52.9 14.5 (896)25.9 College 63.6 10.5 (239)Income \$0 - 7,999 35.4 48.8 15.7 (127)\$ 8,000 - 17,999 34.1 52.8 13.1 (466)\$ 18,000 + 31.0 55.6 13.4 (187)

Table 13. Perceptions of Environmental Groups' Value System by Survey Respondents (%)

"Environmentalists care more about the state of the natural environment than the livelihood of fellow citizens." Disagree No Opinion (Total) Agree Total 33.2 50.8 16.1 1506 Male 37.6 46.9 15.6 (700)Female 29.4 (806)54.2 16.4 Age (465)18 - 2928.6 64.7 6.7 30 - 49 33.6 48.5 17.9 (750)50 +39.5 34.4 26.1 (291)Education **Primary** 41.5 39.4 19.1 (236)Secondary 32.6 52.9 14.5 (896)College 25.9 63.6 10.5 (239)Income \$0-7,999 35,4 48.8 15.7 (127)\$ 8,000 - 17,999 34.1 52.8 13.1 (466)13.4 (187)\$18,000 +31.0 55.6

and commercial sectors have not done their best to help address the environmental pollution problems."

A majority (71.4 percent) of the respondents found themselves in agreement with such a proposition and only 15.8 percent disagreed (Table 14). Again, the age and educational level of the respondents seemed to have some influence on the perception pattern of those who doubted the industrial and commercial groups. Whereas 54.6 percent of the oldest respondents found fault with the corporate sector, more than three-quarters (76.8 percent) of the youngest group were convinced that the private firms could have done more to help tackle pollution problems. Moreover, a higher proportion (75.7 percent) of the college-educated respondents than that (64.4 percent) of the primary school graduates took the private sector to the task of doing more to address the pollution clean-up agenda (Table 14).

Summary of major research findings

The major research findings are summarized as follows:

- √ With the "Environmental Protection Index" for Hong Kong determined to be at 19 percent, the territory was ranked at the bottom of the list in terms of the degree of public support for environmental protection when compared with 39 other countries and cities.
- √ While 83.2 percent of the respondents considered environmental pollution problems in
 Hong Kong to be "urgent" and 62.2 percent were worried that Hong Kong would face an
 environmental crisis in the near future, only 34.6 percent of the respondents reported that
 pollution problems in their own districts as "serious."
- √ Up to 83.6 percent of the respondents stated that they were concerned about
 environmental pollution problems in Hong Kong, and around 80 percent believed that their
 quality of life and their health had been adversely affected by such problems.
- √ While 62.2 percent of the respondents thought that governmental actions in dealing with pollution problems had been adequate, 57.1 percent said that they did not feel confident about the government's commitment to improve the environment in the next

Table 14. Perceptions of the Role of Industrial and Commercial Sectors in Addressing Environmental Pollution Problems by Survey Respondents (%)

"Hong Kong's industrial and commercial sectors have not done their best to help address the environmental pollution problem." Disagree No Opinion Agree (Total) Total 71.4 15.8 12.8 (1506)Male 69.4 18.4 12.1 (700)Female 68.5 12.9 18.6 (806)Age 18 - 29 76.8 16.6 6.7 (465)30 - 49 69.6 16.1 14.3 (750)50 + 54.6 12.0 33.3 (291)Education **Primary** 64.4 14.0 21.6 (236)Secondary 72.1 16.7 11.2 (896)(239)College 75.7 13,8 10.5 Income \$0-7,999 66.9 16.5 16.5 (127)\$8,000 - 17,999 76.8 14.6 8.6 (466)\$ 18,000 + 72.2 11.8 16.0 (187)

three to five years and 67.7 percent believed that the government should commit more resources to reduce environmental pollution.

- About one-third of the respondents agreed with the statement that "The environmental pollution problems in Hong Kong are not as that urgent as suggested by the environmentalists" and 61.6 percent found themselves in agreement with the proposition that "Environmentalists care more about the state of the natural environment than the livelihood of fellow citizens."
- √ Up to 71.4 percent of the respondents agreed with the statement that "Hong Kong's industrial and commercial sectors have not done their best to help address the environmental pollution problems."
- √ The following environmental pollution problems were ranked by the respondents, in descending order, as the "most serious": air pollution (37.8 percent), solid waste (26.9 percent), water pollution (17.1 percent), and noise pollution (11.3 percent).

5. CONCLUSION

The overall research results paint a somewhat paradoxical picture with regard to the public's attitudes toward the issue of environmental protection. Even though only 19 percent of the respondents have expressed a high degree of support for environmental protection, around 80 percent of the respondents considered the environmental pollution problems in Hong Kong as an urgent or very urgent matter and believed that their quality of life and their health have been affected or seriously affected by such pollution problems. Moreover, 68 percent of the respondents agreed that the government should commit additional resources to tackle these problems.

Although further research is needed to ascertain the exact reasons underlying such a paradox, several conjectural explanations can be offered. First, as pointed out in the preceding section, 71.4 percent of the respondents believed that the Hong Kong's industrial and commercial sectors had not done their best to help address environmental pollution problems. Put in a different way, these respondents might have felt that individual citizens had already assumed a disproportionately larger, but socially unjust, share of the burden of environmental

responsibilities. They were therefore unfavorable to any proposition for further personal financial sacrifice because they strongly felt that it would only be fair to ask the corporate sector, and not the average citizen, to assume a larger share of the responsibilities.

Secondly, as shown above, 57.1 percent of the respondents did not feel confident about the Hong Kong government's commitment to improve the environment in the next three to five years. This lack of confidence in the government's environmental commitment could also form a part of the basis of the low *degree* of public support, but such a proposition would need to be verified and confirmed with further qualitative research data that could only be obtained through in-depth interviews.

Thirdly, the results strongly suggest that the public might have held onto some very different (and diverse) conceptions of the nature of environmental problems from those defined by the government and the environmental groups. The finding that close to one-third (33.2 percent) of the respondents believed that the environmental pollution problems in Hong Kong were not as that urgent as suggested by the environmentalists lends partial support to such a conjecture. That is, depending on how the public determine what constitutes an environmental problem and what they might have accepted to be the underlying causes of environmental problems, individual citizens may or may not agree with both the problem definitions and solutions proposed by either the government or the environmental groups.

This proposition, in turn, reveals the following issues in environmental conceptualization and environmental communication: What have been the central messages put forward by the environmental education campaign activities sponsored by both the environmental groups and the government? What was the social process by which the messages were defined? Was there any significant input from the public in the process of identifying and constructing these campaign messages? Whose definition of environmental problems was given prominence and why? To the extent that there are gaps between and among the government's definition, the environmental groups' definition, and the public's conception of environmental problems in the territory, what were the strategies used by the government and the environmental groups to close those gaps?

Several critics of the environmental education campaign have pointed out that the main themes carried in almost all of its activities have been highly "personalized" (thus downplaying the social, political, and institutional dimensions of environmental issues) and "depoliticized" (thereby excluding the discussion of community participation). The public has been therefore effectively "marginalized from the process of environmental conceptualization and praxis." If these criticisms are even partially valid, then, it is not at all surprising that many members of the public in Hong Kong are skeptical of the environmental agenda stemming from both the government and the environmental groups.

Finally, as repeatedly pointed out in the last section, we have discovered that younger people (aged 18-29) and those with college education were more receptive than other groups to the urgency and seriousness of environmental pollution problems. This category of respondents, when compared with older and less educated respondents, have also expressed a higher level of willingness to pay more taxes and to give up part of their income for the prevention of environmental pollution. These findings suggest, though not unequivocally, that the environmental education campaign conducted by both the environmental groups and the government in recent years, particularly those campaign activities that have targeted the younger population, have already had some impact on younger people's environmental perception and environmental values.

In conclusion, the overall research findings suggest that the actual problem may not lie with merely doing more at the societal level to muster a higher degree of commitment from the public to make personal financial sacrifices to address environmental problems. There is, fundamentally, a need to re-examine the basic premises that underlie both the environmental education campaign *per se* and the government's overall environmental agenda in general. In order that our work will add to rather than detract from the quest of the majority of the citizens in Hong Kong to earn an adequate livelihood, have economic security, and live in a safe and clean environment, we need to grapple with the following questions: How could we develop an *inclusive* social process of defining environmental problems and devising socially acceptable and environmentally feasible solutions in Hong Kong? In other words, to what extent, and how, should the environmental rights and aspirations of the public—and the

⁹ Man Si-wai, 1995, "The Environment," in Joseph Cheng and Sonny Lo, editors, From Colony to SAR—Hong Kong's Challenges Ahead, Hong Kong: The Chinese University Press, Chapter 14, pp. 319-356.

victims of environmental degradation and destruction in particular—be clearly identified and articulated in public forums and widely discussed? And ultimately, what should be the concrete processes by which environmental concerns are brought to bear in political and economic decisions?

ACKNOWLEDGMENTS

We would like to express our gratitude to the Faculty of Social Science at The Chinese University of Hong Kong for the financial support that made this research project possible. Special thanks have to go to Professor Ronald Inglehart for his prompt and generous sharing of some of his unpublished research findings. Dr. Wong Ka-ying and Mr. Shum Kwokcheung at the Hong Kong Institute for Asia-Pacific Studies provided invaluable advice and assistance in the design of the questionnaire and in conducting the telephone survey. Professor Peter Hills of The University of Hong Kong and Dr. Hung Wing-tat of The Hong Kong Polytechnic University reviewed earlier drafts of the questionnaire and provided very useful comments and suggestions. Mr. Yan Wing-lok provided as reference materials copies of earlier surveys on environmental perceptions conducted by Greenpower. Meimei Wong helped prepare the tables. Research assistance at various stages of the project were ably provided by Elaine Yam, Paul Wong, Chiu Man Yiu, and Tam Lai Yi.

APPENDIX A: SURVEY QUESTIONNAIRE

4. ☐ Solid waste

5. Other:

"I a	m an inter lic's suppo	ort for environ	Chine ment		We would li	ke to occupy y	ducting a survey of the ou for a couple of
Res	ident's res	2. 3. 4.		Willing to answer Refuse to answer Telephone has properly (Not a residence No qualified into (Foreigners) No one to answer Respondent is be No adults at home	er problem e) erviewee er the call / ousy /		→ [Start Procedure B] → [End] → [End] → [End] → [Should try again]
"Ar 1. 2.	e you 18 o	Selection of or older?" Indent is 18 or or respondent			→ [Repe → "Are t are 18 answe	•	.] household members who ase ask him / her to
	□ Not he		er in 1	the household	$\rightarrow [Try \ a$ $\rightarrow [End]$	gain]	
Pro	ocedure C:	Start adminis	terin:	g the questionna	aire		
1.	How wor	ıld you rate th	e deg	gree of urgency	of environn	nental pollution	problems in Hong Kong?
	2. □ N 3. □ U	Not urgent at a Not urgent Jrgent Very urgent	11	8. Do		efuse to answer	
2.	Hong Ko water pol	ong faces the following faces the following faces and sollowing faces are sollowed in the faces are sollowed in the faces are faces and faces are	ollow id wa	ving environmer aste. Which of	ntal pollution these proble	n problems: air ems do you con	pollution, noise pollution, sider as the most serious?
	2. 🗆 N	Air pollution Noise pollutior Water pollutio		7. 🗆 8. 🗆 9. 🗖	Difficult to Do not kno No opinion		nswer

3.		Γο what extent do you think your quality of life has been adversely affected by environmental pollution problems?					
	3. 🗆	Not at all Not very much A fair amount A great deal	8. 🗆	Difficult to comment Do not know No opinion / Refuse to answer			
4.		To what extent do you think your health has been adversely affected by environmental pollution problems?					
	2. 3.	Not at all Not very much A fair amount A great deal	8. 🗆	Difficult to comment Do not know No opinion / Refuse to answer			
5.	5. Do you think that governmental actions in dealing with environmental pollution problems have been adequate?						
	2. 🔲	Not adequate at all Not adequate Adequate Very adequate	7. 🗆 8. 🗆 9. 🗖	Do not know			
6.	Are you worried that Hong Kong will face an environmental crisis in the near future?						
	2. □ 3. □	Not at all Not very much A fair amount A great deal	7.	Difficult to comment Do not know No opinion / Refuse to answer			
7.	7. To what extent do you feel confident about the Hong Kong government's commitmen improve the environment in the next three to five years?						
	3. 🗆	Not at all Not very much A fair amount A great deal		Difficult to comment Do not know No opinion / Refuse to answer			
8.	How co	oncerned are you about enviro	nmental	pollution problems in Hong Kong?			
	3. 🗆	Not at all Not very much A fair amount A great deal	7. □ 8. □ 9. □	Do not know			

9.	"The government should reduce environmental pollution, but it should not cost me any money. Do you agree or disagree with this statement?				
		Strongly disagree Disagree Agree Strongly agree	7.	Do not know	
10. Should the Hong Kong government spend more or less money to reduce environmental pollution?					
	1. 🗆	Less	7. 🗆	Difficult to comment / Depends on the circumstances	
		Remain unchanged More	8. 🗆 9. 🗆	Do not know	
11. "I would be willing to give part of my income if I were sure that the money would be used to prevent environmental pollution." Do you agree or disagree with this statement?					
	1. 🗆	Strongly disagree	7. 🗆	Difficult to comment / Depends on the circumstances	
		Disagree Agree Strongly agree	8. 🗆 9. 🗖	Do not know	
12	2. "I would agree to an increase in taxes if the extra money is used to prevent environmental pollution." Do you agree or disagree with this statement?				
	1. 🗆	Strongly disagree	7. 🗆	Difficult to comment / Depends on the circumstances	
		Disagree Agree Strongly agree		Do not know No opinion / Refuse to answer	
13. "The environmental pollution problems in Hong Kong are not as that urgent as suggested by the environmentalists." Do you agree or disagree with this statement?					
	1. □ 2. □ 3. □ 4. □	Disagree Agree	7. 8. 9.	Do not know	

	4. "The strengthening of environmental protection will lead to higher costs of operation for the private sector. This will in turn lead to increase in consumer prices." Do you agree or disagree with this statement?				
		Disagree Agree	7. 8. 9.	Do not know	
15.	"Environmentalists care more about the state of the natural environment than the livelihood of fellow citizens." Do you agree or disagree with this statement?				
		Strongly disagree Disagree Agree Strongly agree	7.	Difficult to comment Do not know No opinion / Refuse to answer	
16.	"Hong Kong's industrial and commercial sectors have not done their best to help address the environmental pollution problems." Do you agree or disagree with this statement?				
	1.	Strongly disagree Disagree Agree Strongly agree	7.	Do not know	
17.	"To w	hat extent do you think your l	iving en	vironment is crowded?"	
	3. □	Not crowded at all Not crowded Crowded Very crowded	7.	Difficult to comment Do not know No opinion / Refuse to answer	
18.	"How would you rate the degree of seriousness of the environmental pollution problems in yo district?"				
	2. 🗆 3. 🗔	Not serious at all Not serious Serious Very serious	8. 🛘	Difficult to comment Do not know No opinion / Refuse to answer	
"I v	vould li	ke to ask you for your person	al partic	ulars in order to facilitate our analysis."	
19.	What	is your sex?			
	1. 🗆 2. 🗆	Male Female			

20.	What is y	our age?
	Please sp	ecify
	99. LI R	efuse to answer
21.	What is the	he level of your educational attainment?
		schooling
	3. 🗆 Fin	ished primary schools ished secondary schools / technical colleges
		aduated from Polytechnics / Universities stgraduate degrees
		fuse to answer

22.	What is t	he type of your living quarters?
		lic housing estate
	2. □ Priv 3. □ Vill	rate housing
	4. 🗆 Oth	ers
	9. □ Re	fuse to answer
23.	What is yo	our monthly income?
	01 🗆	≤ \$ 2000
	02.	\$ 2000 - \$ 3999
	03.	\$ 4000 - \$ 5999 \$ 6000 - \$ 7999
	04.	\$ 6000 - \$ 7999
	05. □ 06. □	\$ 8000 - \$ 9999 \$ 10,000 - \$ 11,999
	07.	\$ 12,000 - \$ 13,999
	08.	\$ 14,000 - \$ 15,999
	09.	\$ 16,000 - \$ 17,999
	10. 🗆 11. 🗆	\$ 18,000 - \$ 19,999 \$ 20,000 - \$ 24,999
	12.	\$ 25,000 - \$ 24,999 \$ 25,000 - \$ 29,999
	13.	\$ 30,000 - \$ 34,999
	14.	\$ 35,000 - \$ 39,999
	15.	≥ \$ 40,000
	99. 🗆 00. 🗖	No fixed income / Refuse to answer No job (retired / housewife / student / unemployed)
	VV. LJ	TAO TOO CICTUOU / HOUSEWITE / STUDENT / UNEITIDIO / EU /

END