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Environmental Awareness in Thailand

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INTRODUCTION

Economic development in Thailand is being accompanied by a rapid deterioration in the natural environment. As the result, a number of people's ideas concerning the environment are changing. The environmental awareness of Thai people seems to be distinctly different from those of people in other developed countries. The aim of this paper is to explore a generalization of environmental awareness of people in Thai society. Environmental awareness is composed of a number of parts, each of which appears to be formed in a different way. This paper explores these different elements with regard to their respective circumstances, their interrelationships, and the ways in which they are formed.

We conducted two surveys to gain an understanding of environmental awareness in Thai society. The first aimed at a broad target group and attempted to ascertain people's environmental awareness using a questionnaire. The other survey involved case studies in certain geographical areas where environmental problems had become evident. Surveys that use questionnaires to get many samples are a good way to determine overall trends, but in many cases it is difficult for researchers outside of Thai society to interpret the results. To make up for this shortcoming, it is useful to perform case studies that expend much time carefully asking questions of each respondent. At the same time, case studies make it hard to see the macro picture, and for this reason we decided to perform both kinds of surveys. Nevertheless, we placed emphasis on performing a statistical study, and relegated the case studies to a supplementary status. Of course this is because of budgetary and time constraints and not because we regarded case studies as unimportant.

As there is a separate report on the case studies, this paper will cover only the statistical survey. However, in my interpretation I will use what I learned from participating in the case studies as well.

1. SURVEY OVERVIEW

Our purpose in performing a statistical survey was to gain an understanding of environmental awareness in Thai society, even if only a general one. It would have been best to sample a target group including all Thai citizens, but we had to give this up because of the lack of any

usable framework for selecting subjects, and because preparing a new one would entail considerable time and cost. Even though national sampling was impossible, we elected to choose a fixed number of samples from nine different regions that we established by combining two axes: one based on a balance between cities and farming villages, and the other on sectors of the country (central, south, northeast, and north). We did this to try to see things as they really are, because the situation can be very different in different parts. It made it possible for us to grasp trends in each region, but it was still impossible to get an overall picture for Thailand from simply totaling up the figures for the samples. Of course if we spot trends that are common to all regions, it shows something that holds for all of Thailand.

We commissioned Deemar Co. to carry out the sampling and interviews. We developed the sampling plan and designed the questionnaire ourselves, and also participated in the pre-test. The number of samples and other data were recorded in appendices. It appears there were no problems with the samples being representative of their respective regions.

2. SURVEY HYPOTHESES

This survey was meant to obtain a general picture of environmental awareness in Thailand, not to test any certain hypotheses. Nevertheless, we still have to consider what kinds of hypotheses we might envision.

2.1 The Composition of Environmental Awareness

Generally we can divide awareness into perceived elements and evaluated elements, and here we likewise decided to divide environmental awareness into these two parts. Environmental perception covers various levels, from the global to immediate personal surroundings, and people perceive things according to the environment's constituent elements, such as water and air. Once they understand the state of the environment, people evaluate it. In actuality, people do not follow a definite procedure which they are aware of, for in most cases perception and evaluation form an integrated whole, but here we shall separate them for the sake of analysis.

Perceived elements consist mainly in understanding the state of the environment, i.e., seeing the extent to which it is polluted, and then adding the perception of what is causing the pollution, what are the possible options for dealing with it, the effects that environmental degradation has on human health and livelihood, and other elements.

We can then see evaluated elements as an evaluation of perceived elements. Examples are: satisfaction or dissatisfaction with the state of the environment; what deserves to be censured as the cause; who is responsible for the protection of the environment; what are the most worrisome effects on human health and livelihood; and what people can put up with. Also included are decisions on trade-offs — deciding in favor of either allowing the environment to deteriorate or eliminating the cause. An example of this type of evaluation is whether people are willing to put up with a degraded environment for the sake of economic development.

In sum, environmental awareness is the perception and evaluation of the environment's present state, including causes of deterioration, impacts of various factors, and remedial measures.

2.2 Several Conceivable Hypotheses

What we tried to obtain was a general picture of environmental awareness, but we also wanted to determine to some extent the reasons behind that awareness. It is impossible at this stage to perform a detailed analysis on how this awareness came about, but we must still give this matter some thought in terms of common sense, because we still need to ask some questions along these lines.

The way in which respondents perceive the state of the environment is naturally influenced by their own objective circumstances. Since we cannot objectively determine in detail the environment of each respondent, we have to include some items as substitutes.

It is quite possible that perceptions of visible and audible kinds of pollution directly indicate objective circumstances, but perception of problems such as ozone layer depletion, which cannot be perceived with our five senses, require intellectual knowledge. Therefore, we have to discuss how people with a certain extent of knowledge will perceive a certain problem.

Perceiving the causes of environmental deterioration is sometimes possible through intuitive understanding, but sometimes requires knowledge. Everybody can see that motor vehicles cause noise, but most cannot understand how the ozone layer is depleted unless they are given an explanation. It is interesting to examine which explanation people will accept when there are several different choices. But this is hard to do in a survey like this one, and case studies are perhaps better suited to the task.

The same can be said for things that affect human health. Because many impacts are invisible and show their consequences over time, it is difficult for people to judge directly by themselves, so people end up accepting someone else's explanation. For example, when the statements made by a factory and those of an NGO contradict one another, we face the problem of whom to believe. It is possible to formulate hypotheses on this point, but this survey did not go that far.

The most important factor in making evaluations concerns the environment's present state, but the criteria used to evaluate this state differ from person to person. This survey may offer some suggestions about who employs what kind of criteria, as they differ according to where people were born and raised, their lifestyles, standards of living, and other factors.

There is little possibility that the element of evaluation will have much importance when considering a number of possible causes, but it is significant when we are making a judgment on which, among a number of conceivable causes for pollution, is most responsible. One would expect that people, when making such judgments, will bear in mind how it affects their own interests.

The important consideration is: When people assess environmental impacts, which ones do they see as significant? This is likely related to their lifestyles, and the consideration of corrective measures will be strongly affected by how these measures affect their own interests, although their personal credos are also involved.

2.3 Questionnaire Arrangement

The questionnaire used in this survey can be roughly broken down into three sections. The first is about the environment itself, and constitutes the heart of this survey. The second concerns what we call social awareness, which is used for analyzing environmental awareness. An example of this is to determine if social awareness is a valid explanation for contradic-

tions between attitudes and actions on the environment, when studying authoritarian tendencies. However, this report does not discuss this in any detail, as it is the focus of another report. The third part is questions about the respondents' basic attributes. This report analyzes the state of people's awareness toward the environment, and how that awareness differs depending on the respondents' attributes.

Items related to environmental awareness include the following:

Present state of the environment:

What do you think is the most serious environmental problem in Thai society?
(Questionnaire 3-3A)

What is the second most serious problem? (3-3B)

Impacts:

How much to you think your life and health are affected by environmental deterioration these days? (3-1)

Causes:

What do you think are the causes of environmental problems? "water pollution" (urban questionnaire 3-8A) "air pollution" (urban questionnaire 3-8B, rural questionnaire 3-8A)

Remedial measures:

What do you think is the best way to solve environmental problems? (3-4)

If you suffer harm through environmental damage, who besides you would be most helpful in solving the problem? (3-5)

Do you think the law is applied fairly to people who are responsible for damaging the environment? (3-6)

In order not to damage the environment, do you think you can lessen the usage of air conditioners (electric fans for up country) to save energy? (3-7A)

Do you think you can pay a little more tax to manage the environment? (3-7B)

What do you want the government to do to improve the environment? (3-9)

Other:

Which do you think is more important, "economic development" or "environmental protection"? (3-2)

Which would you choose: Cutting down trees to build a hydroelectric dam or no dam construction to save forests? (3-10)

How should we handle land issues involving protected forest areas on which local residents' livelihoods depend? (3-11)

3. OVERVIEW OF SURVEY RESULTS

3.1 Perceptions of Environmental Problems

To begin with, we asked respondents to tell us what environmental problems they thought were most and second-most serious. In Bangkok people said that air pollution was most serious. In central cities, respondents likewise cited air pollution, but people in other urban

areas said the most serious problem was deforestation. Except for the northeast region, respondents in rural areas said deforestation was most serious, while in the northeast people cited drought (Table 1). In Bangkok the problem that the second-largest number of people cited as most serious was deforestation, followed by water pollution. People in central cities said the same. In northern cities people cited water pollution and garbage/odor as the second- and third-most serious problems, at almost identical response rates. In northeastern and southern cities, air pollution and water pollution were back to back. In the rural north and south air pollution followed, while drought in the central region, and deforestation in the northeast region ran second. The responses to questions on the second-most serious problem also mentioned similar items.

Drought itself is a natural phenomenon (though it is related to deforestation and other problems), and setting it aside we find that air pollution, water pollution, and deforestation are perceived as the three most serious environmental problems. There is no mistaking the fact that they are all serious. Regional differences can be seen as arising from the objective state of environmental damage, but we cannot conclude that these perceptions are determined solely by objective circumstances, for another factor is the way people construe what is happening. Let us make some analysis of respondents' attributes in order to examine this hypothesis.

A look at the Bangkok capital area shows that, according to sex, many women cited water pollution, while men cited air and water pollution in roughly equal numbers. In terms of age, people under age 20 cited deforestation more than people in other age brackets (Figures 1-1, 1-2). It is difficult to make conjectures on how people reason when deciding whether air or water pollution is a more serious problem. And unless people have knowledge about deforestation, it is more difficult for them to gauge its seriousness than to think of that of air and water pollution, which can be understood directly through the senses. During the last few years, Thailand has been conducting an intense campaign stressing the importance of preserving forests, and one can guess that the younger people are, the more receptive they are to this message. This hypothesis can be tested by checking differences in responses according to educational background. The higher a respondent's educational level, the greater the chance he or she will say that deforestation is serious. College-level people are an exception, and the reason for this is unclear.

In response to a question on whether people discern the effects of pollution on their life and health, about 70% of people in Bangkok, 60% in other urban areas, and 50% in rural areas said the effects were serious. In outlying areas, there were regional differences, with many people in the northeast saying the effects were serious (Table 2). There were no clear differences depending on age, education, or income.

3.2 Causes of Pollution

It was in southern cities that the greatest number of respondents said motor vehicles were responsible for air pollution, but this is probably because the south has comparatively few factories (Table 3). And regarding water pollution, the large volume of effluent from businesses, factories, and the like in Bangkok is no doubt related to the large number of factories there (Tables 4, 5). The reasons that people in rural areas often cited pesticides, and those in the south factories, are indicative of the situations there.

Differences in the answers given by people living in the same area and under circumstances that are more or less objectively the same can be attributed to differences in the way people perceive things. In Bangkok there are no differences in answers between men and

Table 1 The Most Serious Environmental Problem

Base: All Respondents

	UPCOUNTRY													
	BMA					Urban Area					Rural Area			
	All Res-pondents	Total BMA	BKK	Fringe Area	Total Urban	Central	North	North-east	South	Total Rural	Central	North	North-east	South
Total	3,130	1,043	763	280	1,034	244	260	272	258	1,053	258	268	260	267
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Deforestation	34%	28%	27%	31%	38%	27%	44%	37%	45%	37%	35%	37%	27%	48%
Air pollution	31%	44%	47%	35%	32%	43%	32%	24%	31%	18%	17%	27%	13%	15%
Water contamination	12%	14%	13%	16%	12%	15%	7%	18%	8%	9%	9%	9%	6%	12%
Drought	10%	2%	1%	3%	5%	6%	3%	9%	1%	22%	24%	11%	47%	7%
Flood/land slide	6%	3%	3%	2%	4%	4%	4%	3%	5%	11%	13%	11%	3%	15%
Garbage/odor	5%	6%	6%	7%	6%	2%	8%	6%	6%	2%	1%	3%	2%	3%
Noise pollution	2%	2%	1%	4%	3%	2%	1%	3%	4%	1%	1%	1%	1%	1%
Others	*%	1%	1%	1%	*%	1%	1%	*%	*%	1%	1%	1%	1%	1%
N.A	1%	1%	1%	1%	*%	*%	1%	*%	*%	1%	3%	3%	3%	3%

Note: "BMA" is the abbreviation of Bangkok Metropolitan Area.

Figure 1-1 The Most Serious Environmental Problem
Male Respondents in BMA by Age Stratification

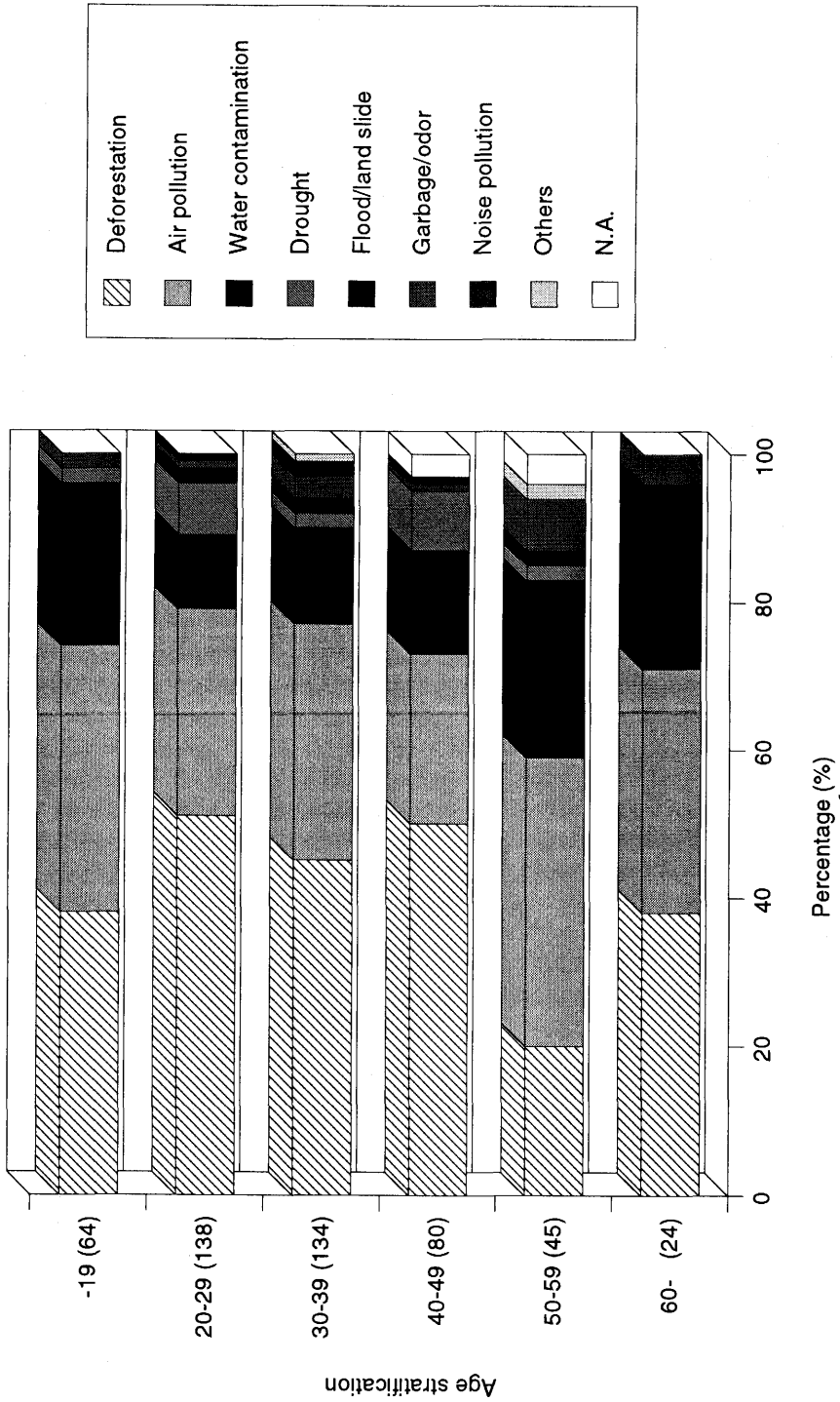


Figure 1-2 The Most Serious Environmental Problem
Female Respondents in BMA by Age Stratification

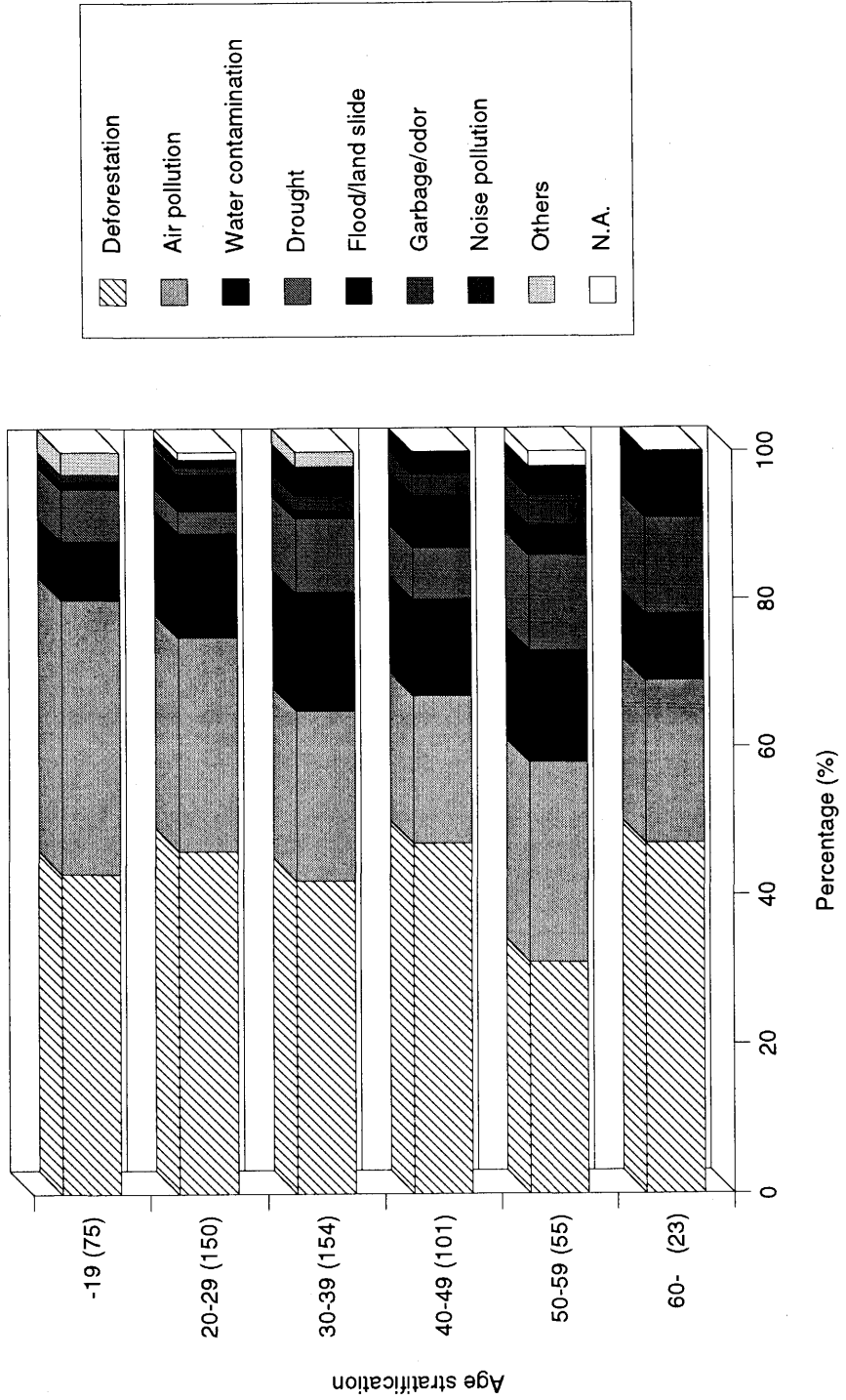


Table 2 Deterioration Influence on Life and Health

Base: All Respondents

	UPCOUNTRY													
	BMA				Urban Area				Rural Area					
	All Respondents	Total BMA	BKK	Fringe Area	Total Urban	Central	North	North-east	South	Total Rural	Central	North	North-east	South
Total	3,130	1,043	763	280	1,034	244	260	272	258	1,053	258	268	260	267
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Very much affected (3.0)	61%	69%	69%	70%	63%	58%	60%	68%	64%	51%	41%	39%	69%	57%
Slightly affected (2.0)	31%	26%	26%	24%	31%	36%	32%	28%	28%	36%	45%	40%	23%	36%
Not at all affected (1.0)	7%	4%	4%	6%	6%	4%	8%	4%	7%	12%	13%	20%	8%	7%
Others	*%	*%	*%	*%	1%	2%	1%	*%	*%	*%	1%	*%	1%	1%
D.K./N.A.	1%	*%	*%	*%	1%	2%	1%	*%	*%	1%	1%	1%	1%	1%

Table 3 Cause of Air Pollution — Municipal Only

Base: All Respondents in Municipal Area

	<i>BMA</i>				<i>UPCOUNTRY</i>				
	<i>Total municipal</i>	<i>Total BMA</i>	<i>BKK</i>	<i>Fringe Area</i>	<i>Urban Area</i>				
					<i>Total Urban</i>	<i>Central</i>	<i>North</i>	<i>North-east</i>	<i>South</i>
<i>Total</i>	2,077 100%	1,043 100%	763 100%	280 100%	1,034 100%	244 100%	260 100%	272 100%	258 100%
Car exhaust	78%	78%	82%	66%	79%	70%	81%	77%	87%
Smoke from factories	18%	18%	14%	29%	19%	28%	14%	22%	12%
Both	2%	4%	3%	5%	1%		3%	*%	
Others	*%	*%	*%		*%	*%			
D.K./N.A.	1%	1%	1%	*%	1%	1%	2%	1%	1%

Table 4 Cause of Water Contamination — Municipal Only

Base: All Respondents in Municipal Area

	<i>BMA</i>				<i>UPCOUNTRY</i>				
	<i>Total municipal</i>	<i>Total BMA</i>	<i>BKK</i>	<i>Fringe Area</i>	<i>Urban Area</i>				
					<i>Total Urban</i>	<i>Central</i>	<i>North</i>	<i>North-east</i>	<i>South</i>
<i>Total</i>	2,077 100%	1,043 100%	763 100%	280 100%	1,034 100%	244 100%	260 100%	272 100%	258 100%
Waste water from factories and organizations	56%	63%	61%	69%	48%	51%	51%	48%	43%
Garbage/Waste water from residents	41%	32%	33%	28%	50%	49%	42%	51%	56%
Both	3%	4%	5%	2%	2%		5%	1%	
Others	*%	*%	*%	1%	*%		*%		
D.K./N.A.	1%	1%	1%	*%	1%	*%	1%	1%	1%

women, but according to age bracket, many young people cited motor vehicles, while comparatively many older people cited factories. It is hard to explain this difference, but considering the fact that people with more education do not often cite factories, the seriousness of the vehicle traffic problem is probably influenced by education and public enlightenment campaigns. Another interpretation is that within Bangkok itself, areas with many factories tend to be inhabited by people with little education. Among those who cited factories one finds a comparatively large number of blue collar workers, and few white collar workers or self-employed people, and among high-income citizens many cited motor vehicles, which lends support to this interpretation.

**Figure 2 Cause of Water Contamination (BMA)
MA Respondents by Academic Background**

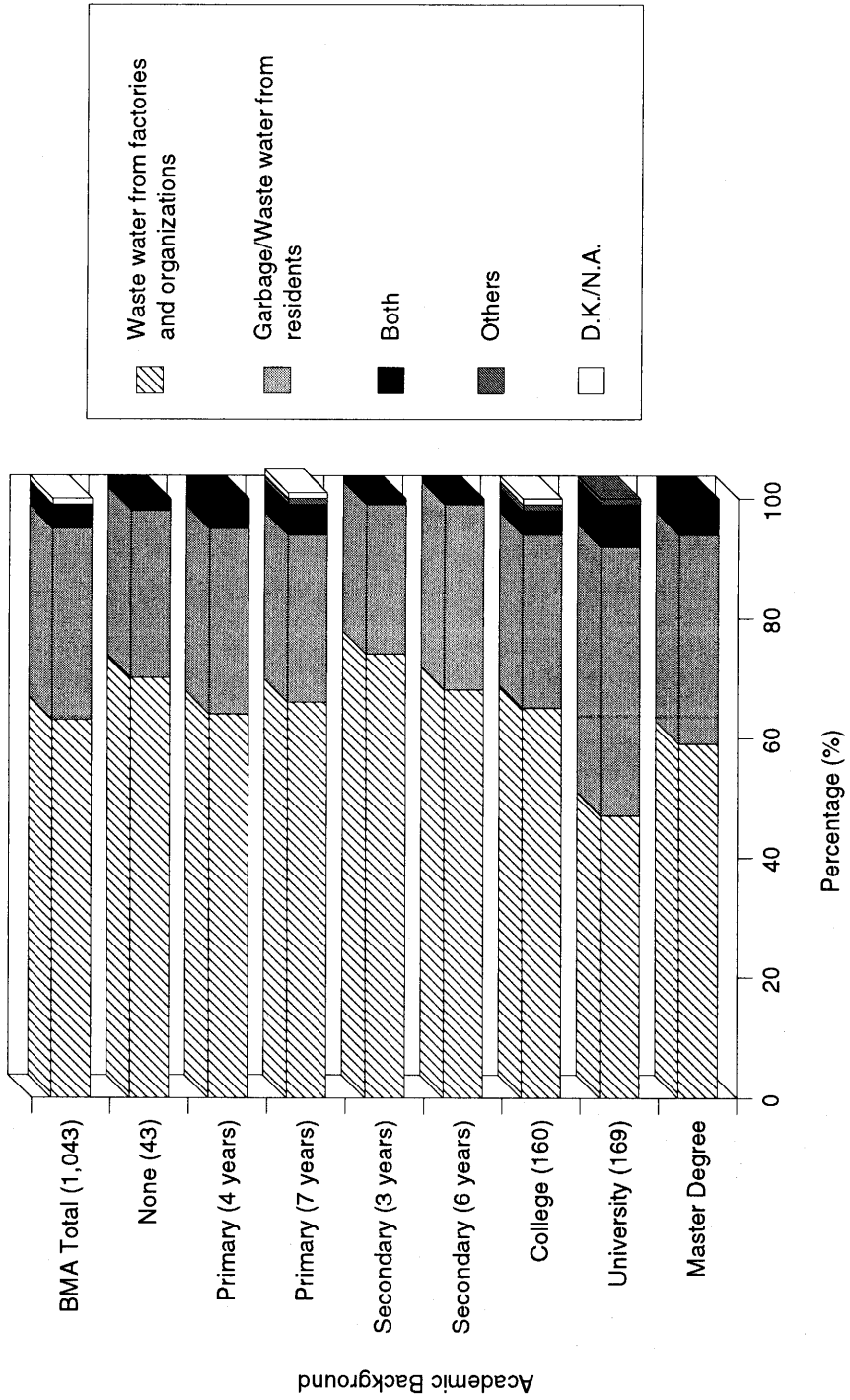


Table 5 Cause of Water Contamination — Rural Only

Base: All Respondents in Municipal Area

	UPCOUNTRY				
	Rural Area				
	<i>Total Rural</i>	<i>Central</i>	<i>North</i>	<i>North-east</i>	<i>South</i>
	1,053 100%	258 100%	268 100%	260 100%	267 100%
Waste water from factories and organizations	50%	60%	20%	50%	69%
Garbage/Waste water from residents	33%	23%	52%	37%	20%
Fertilizer and chemicals use by farmers	12%	16%	13%	12%	6%
Others	1%		1%		3%
D.K./N.A.	4%	2%	13%	2%	1%

The reasons for the lack of male/female differences on water pollution are the same as for air pollution. There was also little difference according to age, but there were differences based on education, with relatively many college graduates citing household gray water (Figure 2). According to occupation, public employees and professionals — who are also highly educated — likewise tended to cite gray water. Higher-income people also often cited gray water. It would seem that, as with gray water, a lack of knowledge makes it hard for people to see that although each household produces little pollution, the sum effect is a huge source of pollution.

3.3 Remedial Measures

A question on the best solution for environmental problems had respondents choose among “individuals pay attention,” “strict government regulations,” “people form environmental organizations,” and “make businesses obey laws” In Bangkok most people chose individual efforts, while in other cities just as many respondents chose strict government controls and environmental organizations as individual efforts. Rural dwellers put much faith in strict government controls. In the northeast, both city and rural people made roughly the same choices as those in Bangkok (Table 6).

Looking at respondents’ attributes in the Bangkok Metropolitan Area, we found that there was hardly any difference according to sex. With reference to age, people up to and into their 30s often cited individual effort, while those 40 and above emphasized government controls. There was little difference according to age regarding business adherence to rules, but more young people had faith in environmental organizations. Also, many highly educated people cited individual efforts. Many people with either high or low education levels cited government controls, while few people with a median level of education did. According to income, many high-income people cited individual effort, while most people citing business factory adherence to rules were in the low-income bracket, and most people

Table 6 The Best Way to Solve Environmental Problems

		UPCOUNTRY														
		BMA						Rural Area								
		Urban Area			Rural Area			Urban Area			Rural Area					
All Res-pondents	Total BMA	Total Urban	Fringe Area	Central	North	North-east	Total Rural	Central	North	North-east	South	Total Rural	Central	North	North-east	South
Total	3,130 100%	1,043 100%	280 100%	763 100%	280 100%	280 100%	1,034 100%	244 100%	260 100%	272 100%	258 100%	1,053 100%	258 100%	268 100%	260 100%	267 100%
Each of us must always take care of the environment	29%	35%	31%	36%	27%	28%	30%	27%	28%	36%	28%	23%	14%	20%	30%	30%
Strict control by government	28%	24%	28%	23%	29%	26%	26%	29%	26%	22%	28%	33%	38%	41%	24%	28%
Environmental movement in community	24%	19%	22%	17%	23%	28%	26%	23%	28%	24%	30%	27%	28%	24%	28%	29%
Factories follow the rules and eliminate the cause of problems	17%	21%	18%	21%	20%	17%	16%	20%	17%	15%	13%	15%	21%	12%	17%	13%
D.K./N.A.	2%	2%	1%	2%	2%	1%	2%	2%	1%	3%	1%	1%	*%	3%	2%	*%

Base: All Respondents

with hopes for environmental organizations were high-income. Belief in individual effort as a means of solving environmental problems could be considered both up-to-date and to be an effect of traditional thinking.

Now let us examine the answers given to a question asking who would be most helpful if an environmental problem were to arise. There was a gap between respondents in urban and rural areas, with city residents putting public groups at the top, and the government only slightly behind. By contrast, rural dwellers put village mayors and the like at the top, followed by the government and public groups. In general the influence of public groups is stronger in rural areas than in the cities, but farming villages show no dependence on them. Perhaps public groups, which retain the aspect of dependency on traditional authority like village mayors, and dependency on solidarity within the groups, are of only slightly greater significance in rural areas than in the cities. On the whole, few people cited the mass media, but here urban people outnumbered rural people.

Differences in Bangkok according to individual attributes show that while many young people cited public groups, few cited the government. More men than women cited the mass media, but there were comparatively little age differences, with only slightly fewer aged people citing it. People with high education cited public groups more than those without it, and public groups were cited by many high-income people. By contrast, many people with little education and low incomes say they depended on the government.

In response to the question "Do you think the law is applied fairly to people who are responsible for damaging the environment?" nearly 80% of urban respondents and 70% of rural respondents said no. This is not to say that they thought laws were not fairly applied, especially in relation to the environment, but rather expressed a general feeling. In particular, many urban residents in the northeast and rural residents of the northeast and south claimed unfairness. It was not the case that the younger the respondents, the more claimed unfairness. We found no clear connection to educational level and income.

Next, we asked people how big a sacrifice they would be willing to make for the sake of the environment. The questions were whether they would accept paying slightly higher taxes for the environment, and if they would be willing to decrease their use of air conditioning (cities) and electric fans (country). About 80% of urban respondents, and close to 90% of residents of the rural south, said they would accept higher taxes. But in the rural northeast fewer people, or 61%, said it was acceptable (Table 7). We discerned no age difference among men, but among women, a slightly larger number of younger respondents said they would accept higher taxes. There were few differences according to education, with highly educated people only slightly larger in number (Figure 3). There was no income-based difference. In the rural northeast twice as many people as in other areas said they would accept higher taxes, but this may be due to the indigence of northeastern Thailand. In view of the minor influence of people's income and educational differences, though, there would perhaps be problems in directly connecting regional indigence with these answers.

On reducing the use of air conditioning and fans, 62% of Bangkok respondents said they could, while the figure for regional cities and the countryside was about 80% (Table 8). This might reflect the difference between Bangkok, where people have a higher standard of living and have already gotten used to an energy-intensive lifestyle, and in the outlying regions, where the situation has not progressed as far. We found no age-based differences in these answers, and many people with high educational levels said they would reduce such energy usage. The same was true for income.

These answers lead to the conclusion that people believe strongly that the environment should be given precedence even if it means a somewhat inconvenient lifestyle, and in

Table 7 Whether A Little Increase in Tax Payment Can Be Done to Protect Environment

		UPCOUNTRY										Base: All Respondents				
		BMA					Rural Area									
		Urban Area					Rural Area									
		Urban Area		Rural Area			Urban Area		Rural Area							
		Total	Fringe Area	Central	North	North-east	Total Urban	Central	North	North-east	Total Rural	Central	North	North-east	South	South
		All Res-pondents	BKK													
Total	3,130	1,043	763	280	244	260	1,034	244	260	272	1,053	258	268	260	267	
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Acceptable if only a slight increase	78%	82%	80%	88%	78%	80%	78%	80%	82%	74%	74%	74%	72%	61%	89%	
Unacceptable even if a little increase	17%	15%	17%	9%	16%	18%	17%	16%	17%	19%	18%	16%	15%	37%	6%	
D.K./N.A.	5%	3%	3%	3%	7%	2%	5%	7%	2%	8%	8%	10%	14%	2%	6%	

Figure 3 Whether a Little Increase in Tax Payment Can Be Done to Protect Environment BMA Respondents by Academic Background

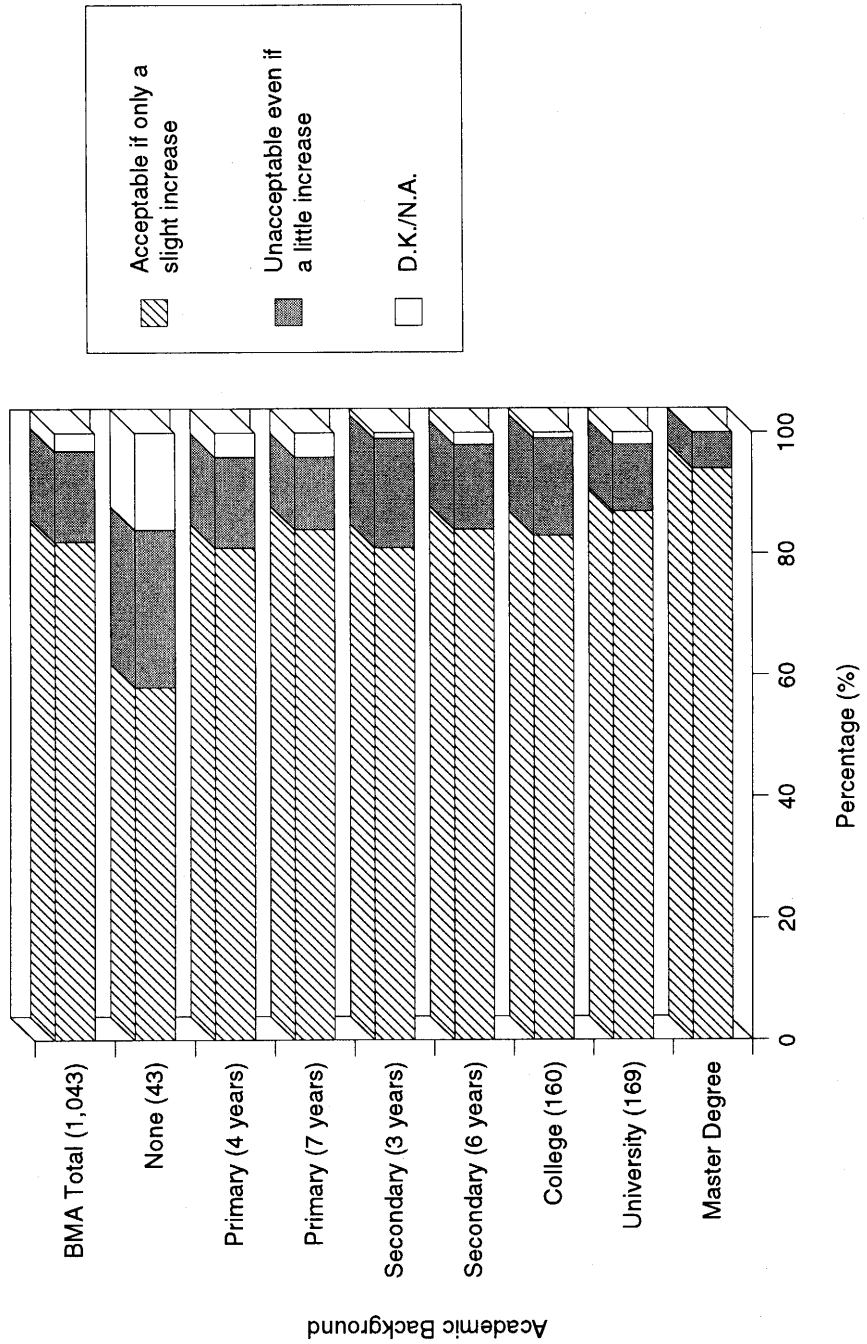


Table 8 Whether A Decrease in Usage of (Air Conditioner for Bangkok, Fringe Area/Electric Fan for Upcountry) Can Be Done to Protect Environment

	UPCOUNTRY													
	BMA						Rural Area						Base: All Respondents	
	All Res-pondents	Total BMA	BKK	Fringe Area	Total Urban	Central	North	North-east	South	Total Rural	Central	North	North-east	South
Total	3,130	1,043	763	280	1,034	244	260	272	258	1,053	258	268	260	267
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Yes	75%	62%	58%	70%	81%	84%	73%	79%	90%	81%	90%	76%	86%	73%
No	13%	14%	14%	13%	17%	13%	27%	19%	8%	7%	7%	11%	8%	3%
Don't have air conditioners/ electric fans	11%	23%	26%	15%	1%	1%	*	2%	*	9%	*	4%	6%	24%
D.K./N.A.	2%	1%	1%	1%	1%	2%	*	*	3%	3%	2%	9%	*	*

Table 9 Comparison between the Importance of Economic Development and Environmental Protection

Base: All Respondents

	UPCOUNTRY													
	BMA					Urban Area					Rural Area			
	All Res-pondents	Total BMA	BKK	Fringe Area	Total Urban	Central	North	North-east	South	Total Rural	Central	North	North-east	South
Total	3,130	1,043	763	280	1,034	244	260	272	258	1,053	258	268	260	267
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Environmental protection	59%	59%	58%	60%	58%	55%	57%	57%	65%	60%	53%	60%	57%	69%
Economic development	30%	25%	25%	25%	31%	40%	25%	31%	28%	33%	45%	25%	34%	28%
Both are equally important	9%	14%	15%	14%	9%	3%	17%	9%	6%	4%	2%	7%	6%	1%
Others	*%	*%	*%	*%	*%				*%					
N.A.	2%	2%	2%	1%	2%	2%	2%	3%	1%	4%	*%	9%	3%	3%

Figure 4-1 Comparison between the Importance of Economic Development and Environmental Protection Male Respondents in BMA by Age Stratification

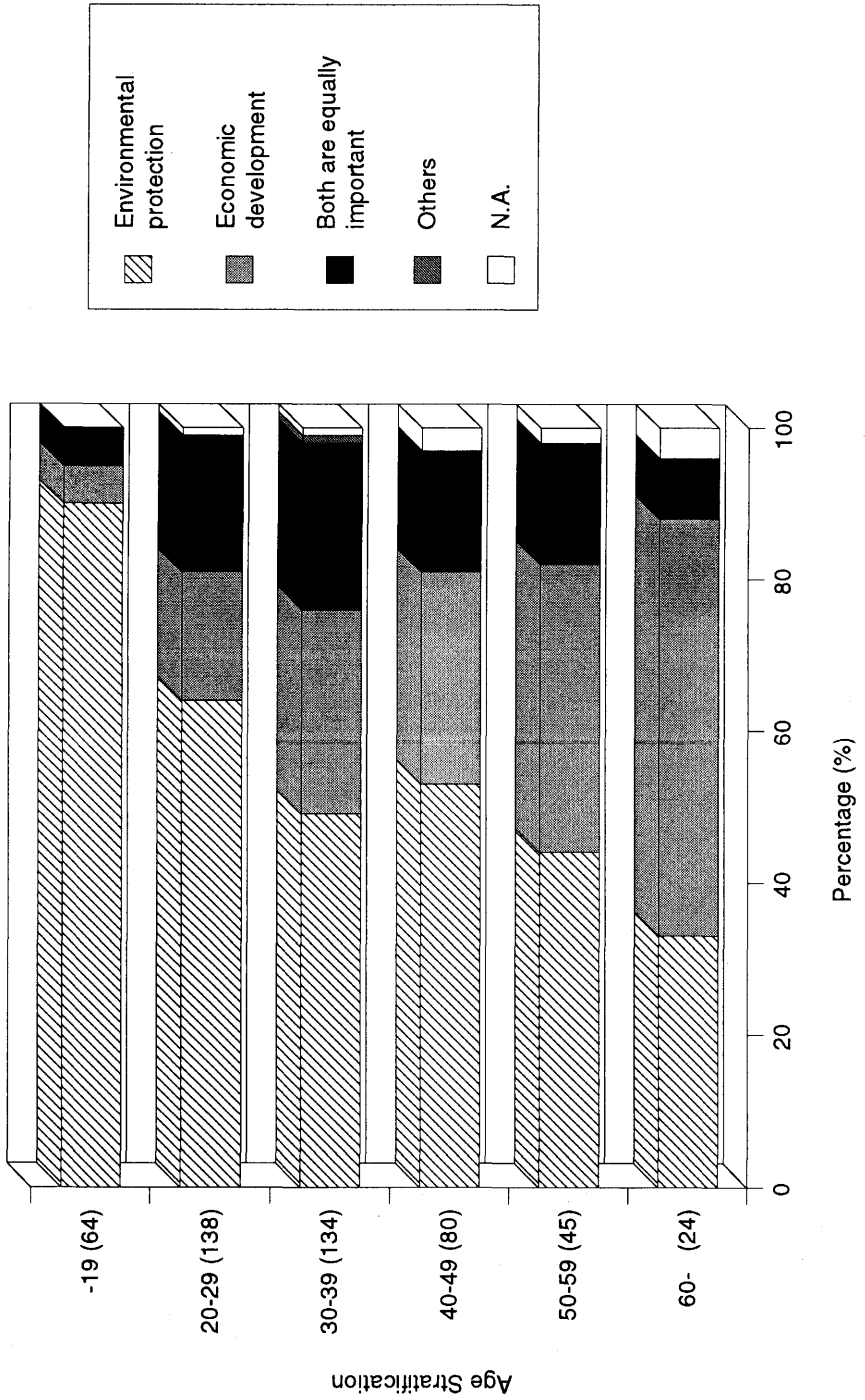
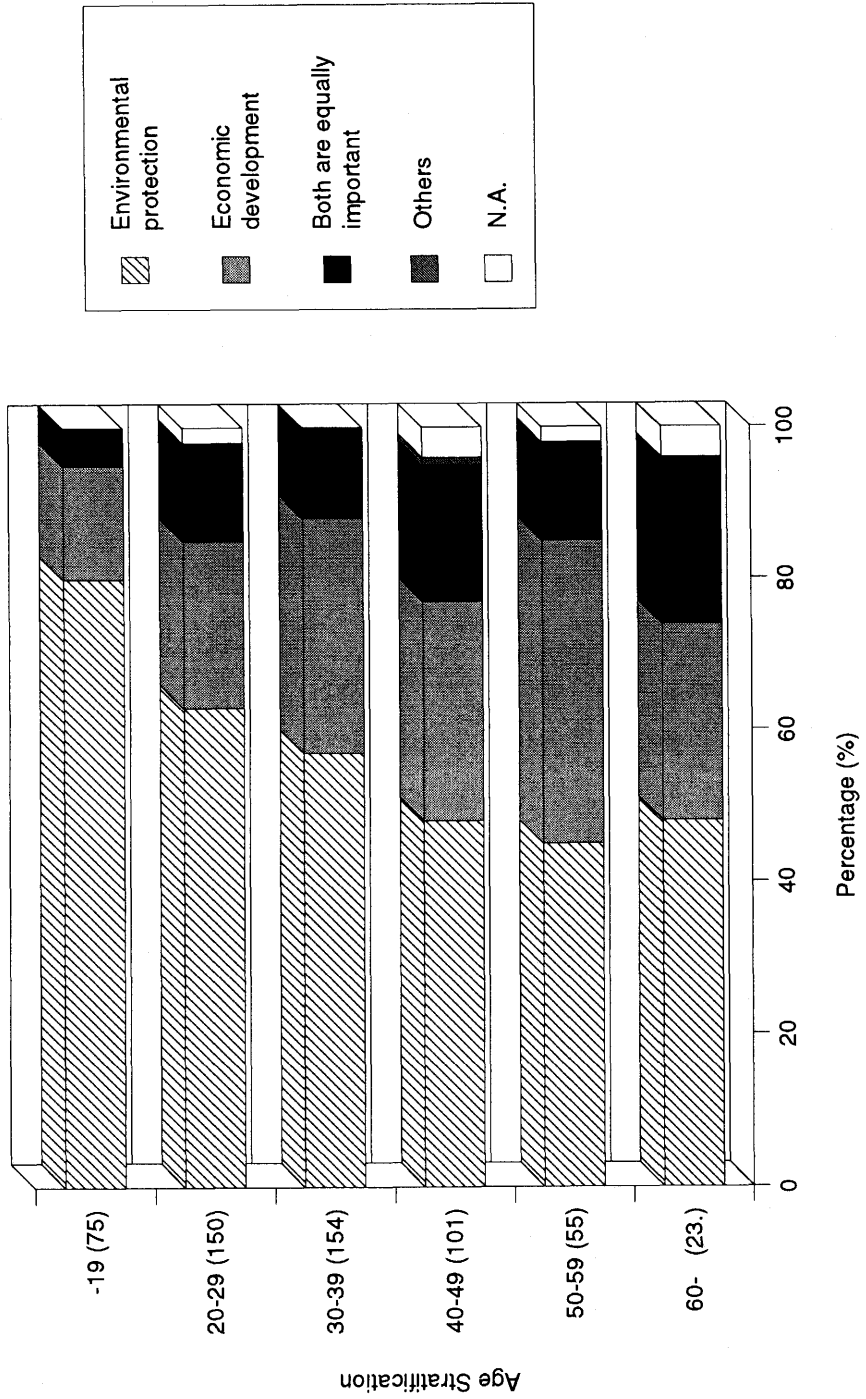


Figure 4-2 Comparison between the Importance of Economic Development and Environmental Protection Female Respondents in BMA by Age Stratification



response to the question, "Which do you think is more important, economic development or environmental protection?" a majority of 60% said the latter was more important. There was little regional difference, but a higher percentage of people in southern urban and rural areas said the environment was more important (Table 9). We found a very large age-based difference, with 91% of males under age 20 saying the environment is more important, a figure which dropped to 33% for males age 60 and over (Figures 4-1, 4-2). A greater number of highly educated people than those with little education tended to say that environmental protection is important, but education had little influence. Income too had hardly any effect. There were also no large gaps between people who thought their health was being greatly affected by pollution, and those who did not. It appears that people's environmental awareness is shaped more by the times in which they live than by individual circumstances.

3.4 Controversial Items

We asked respondents about a few controversial environmental issues. One question had them choose between building a dam and saving a forest, which is a heated issue now in Thailand. Over 70% said that saving the forest was more important, while only 20% chose the dam construction. In the south, people were particularly in favor of forest conservation, while the highest support for dam construction was found in northeastern rural areas and northern urban areas (Table 10). Responses may have been affected by the actual extent of water shortages. Here too, the influence of age was evident, with many young people choosing forests. By sex, more women than men chose forest conservation. There was little influence from either educational level or income. A greater number of people who said the dam construction was important than those who chose the forests had also said economic development was more important than the environment. Nevertheless, over half of this group said that forest protection was more important than dam construction.

The official position of the Thai government is likewise that protecting forests is important, so we asked about the treatment of people actually living in forested areas. The question was whether or not the government should protect forests by expelling the residents of forested areas. There have been persistent calls in Thailand against threatening the livelihood of the poor on the pretext of protecting the environment. Half of our respondents said that they would recognize forest-dwellers' right to live there, but that they should also take care of the forests. About 10% answered that forest-dwellers should be required to move in order to protect the forests. The rest said that forest-dwellers and the government should cooperate to solve the problem. Many rural respondents, and especially those in the northeast and south, said forest-dwellers should be allowed to stay. There were no clear age-based differences. We also discerned no consistent differences according to education or income.

3.5 Summary of the Results

Overall, respondents showed concern for the environment, saying that it must be protected, and that this would require certain sacrifices in terms of comfort and economic growth. We found a fairly broad awareness that while having expectations for government controls and the like, people feel that they must at the same time change their own lifestyles. Some of the answers tended to differ according to where the respondents lived, so it would seem that answers were influenced by the degree of pollution and by economic differentials. Also, many items seemed to have been influenced by age and educational levels. Since it looks as though the effects of occupation and income are not that significant, it is perhaps safe to say

Table 10 Preference between Deforestation for Dam Construction and No Dam Construction to Save the Forest

		UPCOUNTRY											
		BMA					Rural Area						
		Urban Area					Rural Area						
All Res-pondents	Total BMA	BKK	Fringe Area	Total Urban	Central	North	North-east	South	Total Rural	Central	North	North-east	South
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total	3,130	73%	71%	74%	75%	65%	71%	84%	76%	82%	71%	68%	81%
To save forest	74%												
To construct dam	20%	20%	20%	20%	21%	28%	21%	11%	20%	15%	19%	28%	17%
Both have to be done	2%	2%	2%	2%		3%	3%	1%	1%		2%	2%	
Others	1%	1%	1%	*%	*%	1%	1%		*%		*%		
D.K./N.A.	4%	4%	4%	4%	3%	4%	5%	3%	3%	3%	8%	1%	1%

Base: All Respondents

that individual differences are more the product of outside influences than of having a personal stake in something.

4. CHARACTERIZING THAI ENVIRONMENTAL AWARENESS

How can we characterize environmental awareness in Thailand on the basis of the results we have just reviewed? This survey was probably the first large-scale effort of its kind, but as mentioned at the beginning it was meant to explore the matter rather than to produce definite conclusions. Still, to benefit future research I would like to offer a few likely characteristics while at the same time remaining aware that it may be asking a little too much of the results. This certainly does not mean the survey has proved these conclusions; these are my own impressions gained through seeing the results and being involved in the case studies. I will go so far as to record them here to aid future research.

4.1 Industrialization and Environmental Awareness

To this point I have described the results in general terms. Now, how can we characterize environmental awareness in Thailand? As other reports have indicated, we found that it was quite high. This was unexpected in view of the developed countries' experience, in which people's environmental awareness sharpened as industrialization proceeded. In the developed countries, industrialization worsened pollution, and it was not until the citizens, who had thought of industrial development as a good, were suddenly confronted with serious damage, that they finally turned their attention to the environment. Even though the situation may not have been as extreme as Minamata and the other pollution tragedies that called Japanese attention to environmental problems in the 1960s, in many developed countries environmental damage from pollution became serious, and environmental problems at long last gained the public's attention.

In recent years industrialization has proceeded rapidly in Thailand, and in some places has brought about pollution. But it is difficult to find the sort of reports about pollution that triggered concern in the developed countries, although it is not clear whether this is because they have not happened, or rather because they have not been unreported. At the same time, the kind of motor vehicle pollution one finds in Bangkok goes beyond anything ever seen in the developed countries, and it is forcing Bangkok residents to take notice. If environmental problems, and chief among them air pollution, are stimulating awareness of these problems, then it is probably happening mainly among Bangkok residents.

Nevertheless, survey results show that concern among Thai people for environmental problems is high overall, and this includes rural zones. This is one area in which developing countries can avoid the problems of developed countries, owing to the advantage of their late start, meaning that developing countries can study what happened in the developed ones and try to avoid making the same mistakes.

It is of course an informed minority, and not the general population, who believe that action must be taken well in advance because doing nothing about environmental problems will invite serious consequences. Their ideas are communicated to the populace via education and publicity, and specifically through formal education and the media. Differences according to age were seen in many items of the survey results, and a possible interpretation

is that the younger the respondents, the more they were influenced by education and media campaigns. Differences according to educational level can also be interpreted in this way.

Needless to say, it is impossible to ignore the fact that in some ways the actual state of the environment shapes awareness. It is safe to say that a number of urban/rural differences, those among regions of the country, and the like reflect circumstances such as heavy traffic in the cities and the advance of factories into the countryside. However, environmental awareness is not simply a function of the kind of environment people live and work in; it is a manifestation of a concern for the environment that is purposefully fashioned.

4.2 Trends in Environmental Awareness

Characterizing Thai environmental awareness involves not only its intensity but, equally, its substance. In the developed countries, attitudes toward environmental problems initially consisted solely of condemning factories and other pollution sources. Environmental protection movements were built upon this foundation, and in the process of forming developed an awareness that these problems could not be solved simply by attacking industry and politicians, but that people needed to change their own attitudes toward daily life and livelihood. In other words, people began to feel remorseful because of an awareness that their own way of living — which sees mass consumption as a good, or as progress — supported the system that efficiently and cheaply mass produced products, and polluted in the process. At first there were attacks on factories and the politics linked to them, but the subsequent phase involved soul-searching over mass consumption.

In contrast, a look at the Thai survey results shows that Thais not only criticize factories and the government, but are also having strong second thoughts about their own actions. Although one would expect Thailand's initiatives on environmental problems to be in a comparatively early stage, people already have an awareness which in developed countries appeared only after environmental movements had made a certain measure of progress. Phenomena that appeared in sequence in the developed countries sometimes happen all at once in developing countries, and this holds not only for environmental awareness. We can regard this as yet another advantage of the late-comer.

This probably happens because the experiences that developed countries accumulate in historical sequence become knowledge in developing countries all at once. These surveys did not reveal how those experiences became known. It is possible that the government, while calling citizens' attention to environmental problems, is at the same time, and as part of that effort, persuading them to change their lifestyles. It is also possible that the well-informed segment of the population is communicating the latest environmental thought from the West and Japan. Since this has not been made clear by this survey, another will be needed.

The fact that many Thais are having second thoughts about their lifestyles suggests that their feelings are part of a major public information campaign in their country. There is no problem in particular with this sort of attempt to reach the people through such campaigns, but there is concern that because this thinking is not a product of the Thai experience, it will not lead to action. Even in Japan, although such thinking was born from social movements, it tended to be received as simply a new lifestyle as it spread to people who had not experienced the movement. Thus one can imagine that in Thailand, which has little still in the way of an environmental movement, it will be received as mere ideas and will not necessarily lead to action.

Lifestyle changes are without doubt necessary to protect the environment, so we should rejoice to see such ideas spreading throughout the populace. Truly this is the advan-

tage of the late-comer. At the same time, there is cause for anxiety because case studies give the impression that ideas might not lead to action.

4.3 Connection to Traditional Attitudes

If I were to cite one further characteristic of environmental awareness in Thailand, it would be that we can see simultaneously a strong awareness for environmental protection and one for traditional values — such as authoritarianism. In the West and Japan, strong environmental awareness was very evident among people with modern values (although there are some major exceptions in which environmental thinking arose from traditional values), but the results show that this is not necessarily the case in Thailand. It seems there are quite a few people who evince strong concern for environmental protection even while holding fast to ideas such as authoritarianism. One surmises that this happened because campaigns and the like changed thinking on the environment without bringing about attendant changes in awareness on other things. In this respect as well, it is a question of the extent to which the environmental thinking that appeared so intensely will lead to real action and social movements. Needless to say, even in Japan and other countries, responses to questions about the environment are very advanced, but there are many groups in which they lead to no action at all, and in Thailand one imagines that it is apt to be even more so.