Methodology and Major Findings of a Comparative Research Project on Environmental Consciousness in Hong Kong (China), Japan, Thailand, and Vietnam

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The papers in this special issue present the findings of research conducted as part of a comparative project on environmental consciousness in several countries (Hong Kong-China, Japan, Thailand, and Vietnam) in Southeast and East Asia. This project was undertaken in order to try to better understand the nature of public environmental concerns in different countries and to search for commonalities and differences in these perceptions. In this introduction we describe the objectives of the research, the conceptual framework employed for the country studies, and the research methodology we employed. We then present a brief comparison of the cultural models we have generated for each of the countries and discuss some other key findings.

Research Objectives

The main objectives of the project were:

- To delineate "cultural models" of the environment in different Asian societies.
- To examine the similarities and differences of cultural models of the environment in different societies in Asia.
- To assess the extent to which individuals are concerned about environmental problems in different countries.
- To identify the reasons why people are concerned about environmental problems.
- To examine differences in the way in which members of the elite and lay people understand environmental problems.
- To identify policy implications of research findings

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Conceptual Framework

All of the four national research teams employed a common methodology derived from the study of environmental consciousness in the United States carried-out in the early 1990s by Willard Kempton and colleagues [Kempton *et al.* 1996]. This application of an established methodology also allowed us to make comparisons not only within our Asian sample but also with the quite different cultural system of the United States.

At the same time, we have come to recognize a number of limitations in applying the approach of Kempton *et al.* to our respective contexts. These include differences in interviewing cultures, identification (or lack thereof) of values as religiously based, and our use of a relatively unsophisticated and perhaps a bit outdated version of the rapidly developing field of cognitive anthropology (as compared, e. g., with Shore [1996], who, however, does not provide a methodology that is as clear-cut or replicable). Our primary purpose here, however, is to provide a brief introduction to the approach of Kempton *et al.*, and leave elaboration of the limitations to the country studies and subsequent discussion.

Kempton *et al.* provide a path-breaking analysis of the components and causes of popular environmental thinking in the United States, using a two-staged anthropological approach:

Stage 1. Semi-structured interviews with open-ended questions, enabling informants to explain their beliefs and values in their own words. These words are then used to create a survey questionnaire that is used in Stage 2.

Stage 2. Closed-ended survey questionnaire, administered to a larger population, that tests how widely the findings apply across diverse groups. For a number of reasons, our study has not moved to this stage.

The semi-structured interview protocol has three main components. It begins by exploring the informant's *existing mental models* of environment and climate. Specifically, it inquires into attitudes towards the environment and the relationship between humans and nature in general, and attitudes towards the greenhouse effect in particular. It then offers a *briefing*, including charts, providing the informant with a summary of the current state of scientists' views of the greenhouse effect, and records the informant's reactions. It follows this by asking the informant to assess various *policy responses*. In the case of climate change, these are: wait-and-see, regulate, increase fuel prices, go nuclear, or adopt technological "fixes." Finally, it gathers personal information about informants (sex, age, political party affiliation, religious affiliation, annual income etc.)

and records the interviewer's impressions.

Kempton *et al.* carried out semi-structured interviews with 43 informants, including two pilot interviews with well-informed specialists and a nearly equal number of lay people and very broadly defined specialists. The selection of informants was more opportunistic, seeking to cover a broad range of possible mental and cultural models, than representative of the population as a whole. Thus, for example, males are over-represented (at a significance level of 0.10) as are the share, especially of lay people, who express an affinity with the Republican Party (GOP). This is not entirely coincidental, as in the United States males tend to vote more conservatively than females among the lay population, while the environmental specialist community tends to be independent or inclined towards the Democratic Party. This method places a great deal of reliance on the judgment of the researchers, which may make it a bit inelegant methodologically, but relatively easy to adapt to a low-budget multinational study such as ours.

Forty out of the 43 interviews of Kempton *et al.* yielded transcripts, totaling 458 pages, from which 165 pages of "key ideas" were gleaned. These ideas were further winnowed down into 142 statements that closely paraphrased informants' words and opinions. Sometimes they included both conclusions and some of the rationale for the opinion. On important issues, statements were selected with opposite biases and rhetoric. For example:

- Nature may be resilient, but it can only absorb so much damage. (♯109)
- The environment may have been abused, but it has tremendous recuperative powers. (♯29)
- The radical measures being taken to protect the environment are not necessary and will cause too much economic harm. (♯29)
- Because God created the natural world, it is wrong to abuse it. (♯58)
- The Creator intended that nature be used by humans, not worshipped by them. (♯69)
- There are too many environmental regulations right now. (♯81)
- We should return to more traditional values and a less materialistic way of life to help the environment. (♯141)

Combining these with 7 statements from a questionnaire on the "new environmental paradigm," Kempton *et al.* prepared a fixed form survey of 149 statements and administered it to a total of 142 people in five target groups in three categories: *environmentalist* (Earth First! and the Sierra Club); *economically threatened* (dry cleaners and laid-off sawmill workers); and the *lay public* (California subway riders, middle-class people at home, beachgoers and unidentified others). This allowed them to do statistical analyses and correlations.

We have opted in our project not to move to this second step of a fixed form survey.

In part this was because of the lack of adequate human and other resources, but also it was because we felt that the returns to effort were likely to be considerably lower for our purposes than concentrating on the first, open-ended type of survey. This was because our primary goal was to see if we could construct coherent "cultural models" for each of our countries.

What Kempton *et al*. were looking for were *cultural models*, where a cultural model is defined as a widely shared *mental model*. A mental model in turn is "a simplified representation of the world that allows an individual to interpret observations, generate new inferences, and solve problems."

They found that the Americans in their sample, no matter what their political stance on environmentalism, draw on the same set of beliefs and values to interpret different kinds of environmental problems. This is particularly so of those that are (1) *complex*, with effects spread out in time and space; and (2) *ethically difficult*.

Kempton *et al*. found that American perspectives "are based on fundamental moral and religious views on" (1) the relationship between ourselves and nature; (2) the rights of other species; (3) the right of humans to change or manage nature; and especially (4) our responsibility to future generations. In particular, they found that environmental values have religious or spiritual origins that are made explicit (unlike respondents in most of our localities), and that they can be both anthropocentric (focusing on future generations, utilitarianism and aesthetics) and biocentric (with people seen as part of nature, species having rights to exist, and, less commonly, nature having intrinsic rights beyond mere survival).

They also discovered that informants used three different principal cultural models of nature: (1) as a limited resource that we rely upon; (2) as something that is balanced and interdependent, with unpredictable chain reactions if disturbed; and (3) as something that is devalued by the market, unappreciated by modern people, and respected by primitive people. In many respects, these lay models are at variance with those of scientific specialists, especially with regard to the "balance of nature" or the putatively greater respect of nature by our ancestors. At this level, we found a lot of resonances in our samples, but with indications of differences in areas such as the locus of responsibility for environmental degradation and action, the directness or explicit nature of reciprocity as an element of (or alternative model to) balance and interdependence, and the sense of efficacy of individual or social action—none of our sampled populations is known for having a high level of social capital, in the sense used by Robert Putnam [2000].

More specifically, it is clear that Americans incorporate global warming into existing concepts and (mis) interpret them through the lenses of previously salient environmental issues. They regard greenhouse gases as pollutants. They link them to ozone depletion. They connect them to photosynthesis and respiration, fearing the loss of the world's oxygen making capacity. And they link them to short-term variations in temperature. Many of our respondents made similar or identical linkages, indicating the existence, at

least at this level, of an internationally shared, continuously evolving, environmentalist discourse (or cultural model).

Research Methodology

In our studies in Hong Kong, Japan, Thailand, and Vietnam, we employed a semi-structured questionnaire based on the model used by Kempton *et al.* The questionnaires used in each country included the same basic questions about how people conceptualize the relationship between people and nature, how people relate to nature in reality, are people concerned about the environment and what do they mean when they say they are concerned, do they think that other people are concerned about the environment, and why should the environment be protected. In addition, the questionnaires for each country incorporated a different environmental issue that is currently salient (suspended fine particulates for Hong Kong, dioxin for Japan, global warming for Thailand, and deforestation for Vietnam). Although quite different from one another, each of these issues shared the characteristics of complexity and ethical difficulty. We also modified some of the identifying information for respondents to fit local conditions—e. g., in Japan, not asking religious or political affiliations, but adding place of origin. In Hong Kong, Japan, and Vietnam, we also added brief comparative risk assessments, and in Hong Kong and Japan, willingness-to-pay sections.

Samples of from 20 to 33 informants were interviewed in each country. Each national sample was selected to include members of the elite (scientists, businessmen and government officials), and lay people (housewives, manual workers, shopkeepers). We were opportunistic in our samples, but tried as much as possible to interview a broad variety of people. Table 1 presents a summary profile of the respondents in the samples for each country.

Interviews were tape recorded, transcribed, and then subject to qualitative analysis to identify patterns in the responses. Each national team then prepared a report on its findings. These findings are described in the papers in this special issue by Yok-shiu F. Lee (Hong Kong, China), James Nickum, Aoyagi-Usui Midori, and Otsuka Takashi (Japan), Opart Panya and Solot Sirisai (Thailand), and Pham Thi Thuong Vi and A. Terry Rambo (Vietnam). The present paper offers a preliminary attempt to identify key similarities and differences in public environmental consciousness as manifested in the four countries.

Table 1 Summary of Characteristics of Respondents in Each Country

	Hong Kong	Japan	Thailand	Vietnam
Dates of interviewing	5–8/1999	2–4/1999	8–10/2000	9–11/2000
Number of respondents	23	33	22	20
Number of females/males	13/10	13/20	8/14	10/10
Number of lay/elite	16/7	13/20	10/12	6/14

Key Findings

In this section, we will briefly summarize comparative findings relating to three central issues: 1) cultural models of nature held by people in different Asian countries; 2) Similarities and Differences in Cultural Models; 3) the extent to which people in different countries are concerned about the state of the environment; and 4) the reasons why people are concerned about the environment.

1. *Cultural Models of Nature in Different Asian Countries*
Each of the four countries displays a somewhat different model of nature and human relations with it although there are some broad similarities among their models.

Hong Kong

Nature and humans are seen as having a very close relationship in which the welfare of human beings and nature is intertwined. Some elite respondents say that people and nature form an integrated system in which it is important to maintain some balance. Most view this interdependency from an anthropocentric and utilitarian perspective. A good natural environment is desirable because it would lead to good physical health and a good quality of life for people. Conversely, damaging the environment has negative consequences for humans. As one respondent summed it up, "People would be punished by nature, if the air quality, water quality, and the environment is degraded."

Japan

Respondents are divided as to whether or not people are part of nature but they share a common view that relations between people and nature are reciprocal. People should protect nature so that it can continue to provide them with benefits. This utilitarian view of the relationship is illustrated by one respondent's remark that, "In the end it will come back to us. [Environmental protection] is for our own sake." Most respondents also feel that modern people are not fully keeping their share of the bargain, taking from nature but not giving back. And they display nostalgia for an imagined simpler past when the impact of humans on the environment was more benign.

Thailand

All respondents see nature and the environment as being "the world around them," but lay and elite groups hold somewhat different views of this "world." Many lay respondents, particularly rural people, speak of a single integrated natural world whereas some elite respondents differentiate "nature" from "the environment" with nature associated in their minds with the rural periphery and environment associated with the modern,

man-made world of the cities. For both groups, however, nature is perceived as an organized and self-regulating system of which people are a part. People are seen as having a reciprocal relationship with the other elements of this system. Nature provides humans with food and survival necessities but nature needs human protection. Humans have a responsibility to maintain a harmonious balance with nature because, if the environment is degraded, people will suffer shortages of needed resources. Uniquely, among the four countries, a number of Thai respondents mention the moral and aesthetic values of nature to humans. Thus, one student said that, "the beauty of nature make's human minds fresh." The motives expressed by Thai respondents for protecting nature are predominantly utilitarian, however.

Vietnam

Most elite respondents see nature as a balanced system of which humans are an integral part while lay respondents perceive people as being dependent on nature since it provides them with the means for survival. Both models are utilitarian, however, since in either case, humans must avoid damaging nature or they will suffer negative consequences. As one lay respondent put it, "If the natural environment is good, people will have good physical health. But, if the environment is polluted, it will cause many diseases. [For this reason] people should protect the environment and keep it clean."

2. *Similarities and Differences in Cultural Models*

There are some strong similarities, and a few noteworthy differences, among the cultural models we have delineated for Hong Kong, Japan, Thailand, and Vietnam:

- In all of the countries, nature and the environment are predominantly conceived of as the immediate surroundings of people—their homes, neighborhoods, and local communities. Only a few respondents display concern with the global environment.
- In all of the countries, people and nature are seen as being tightly intertwined. Some see people as part of nature, others say that people are separate from nature but closely linked to it, but all recognize that human welfare and the well-being of nature are highly interdependent.
- In all of the countries, the relationship between people and nature is seen in anthropocentric and utilitarian terms. Protection of the environment is justified by the benefits that this provides to people and the damages they will suffer, particularly to their health, if the environment is degraded.
- Almost no concern is shown for protecting nature for its own sake. Only a few respondents in Hong Kong invoke a biocentric rationale for protecting wild species.
- Excepting some respondents in Thailand, and one in Hong Kong, religious reasons

are not explicitly invoked as the rationale for protecting nature. This is quite different from what Kempton *et al.* [1996] found for Americans, who frequently offered religiously derived justifications for protecting nature.

- The aesthetic value of nature to people receives little attention. Only a few Thais and one Japanese refer to the beauty of nature.

- Lay respondents, especially those in Thailand and Vietnam, often do not recognize the official terms meaning "environment" (which are newly coined words in Thai and Vietnamese) but they all understand the concept once it is explained using more popular language.

- Respondents do not in general have a strong scientifically-based understanding of environmental problems. Perceptions of environmental problems appear to be strongly shaped by media coverage that, unfortunately, is all too often sensationalist and only weakly founded on scientific analysis. In Japan, for example, lay people perceive dioxin as a much greater risk than do scientists. In Hong Kong, most respondents say they are concerned about air pollution but few display any clear understanding of its causes or consequences. In Thailand, many respondents explained global warming as being mainly caused by deforestation, although there is no convincing evidence linking loss of forest cover to global climate change. One can argue, of course, as Panya and Sirisai do in their paper, that science should not be privileged above other paradigms for understanding environmental problems. Without disparaging the value of indigenous knowledge, we would simply note that in global environmental discourse, science is the standard against which policies are evaluated. If the public does not understand the underlying causes of environmental change, support for policies designed to mitigate such changes will be weakened.

- The countries differ in the kinds of environmental problems that respondents identify as important. Clean air, water, and local sanitary conditions are the major environmental components identified by most respondents in Japan and Hong Kong. Thus, although respondents in Hong Kong often initially pointed to air pollution as the number one environmental problem in the city, most working class people cited "noise," "broken toilets in public lavatories," and "littered streets" as specific examples of environmental problems that concerned them personally. In Thailand, many respondents mentioned destruction of forests and climate changes as important environmental issues. Deforestation and degradation of natural resources were also mentioned by many Vietnamese respondents. Only a few respondents, usually environmental scientists, in any of the countries, mention the viability of natural ecosystems or the survival of other species (biodiversity conservation) as environmental problems.

3. *Extent to Which People Are Concerned about the State of the Environment*
Concern about the state of the environment is very widespread in the publics of all four
countries. Almost all respondents in all of the countries state that they are personally are
concerned about the environment. Interestingly, lay people are as likely as members of
the elite to express concern about the environment. However, although most respon-
dents say they are concerned about the environment, the depth of their concern is often
very limited. The state of the environment is not a highly salient concern compared to
making a living or other day-to-day worries.

The great majority of our respondents in Japan and Thailand believe that most other
people (family, friends, neighbors) are also concerned about the environment. In Hong
Kong, however, most respondents state that they are personally concerned about the
environment but say that their family and friends, the general public, government
officials, and businessmen are *not* concerned about the environment at all, while in
Vietnam, most respondents state that their family and friends are concerned about the
environment but that only a few government officials and no businessmen are concerned.

In all of the national samples, respondents display little confidence in their capacity
to do anything effective to protect the environment outside of their immediate living
space. There appears to be a widespread lack of confidence in government as an agent of
change.

4. *Reasons Why People Are Concerned about the Environment*
The motivations for protecting the environment expressed by individuals in all four
Asian countries (with the partial exception of Thailand) are primarily personalistic,
anthropocentric, and utilitarian. In general, their environmental concerns are not related
to broad religious beliefs or moral positions. They fear that environmental change will
adversely impact their own health, well-being, and quality of life and that of their
families. They do not express much concern with conserving biodiversity or maintaining
the balance of nature for its own sake nor do they invoke religiously based motivations
for protecting the environment. The following major characteristics of public en-
vironmental concern are evident:

- Human comfort, health, and quality of life, especially that of themselves and their
  families, are the major reasons that respondents are concerned about the environ-
  ment, i. e., their reasons for protecting the environment are primarily *anthropocen-
  tric* and *personalistic*.
- Only a few respondents are concerned with protecting natural ecosystems or
  conserving other species for their own sake. Respondents in Thailand and Viet-
  nam, for example, who express concern about deforestation, tend to see this as a
  problem because it deprives country people of natural sources of food and other
  resources. Thus, their concern is a *utilitarian* one. They do not display *biocentric*

reasons for protecting the environment.

- Only a few respondents in Thailand, and one in Japan, make reference to the aesthetic value of nature. That more respondents do not mention the aesthetic value of nature is somewhat surprising in view of the shared Buddhist heritage of all of the countries as well as the important place that nature occupies in art and poetry in the traditional Confucian culture that underlies modern cultures in Hong Kong, Japan, and Vietnam.

- Religious reasons for protecting the environment are rarely explicitly expressed. *Spiritualistic* reasons for protecting the environment are not encountered except for some respondents in Thailand who suggest that nature and society cannot exist without each other so that moral bonds must exist between people and nature. In contrast, Kempton *et al*. [1996] found American environmental values were derived from three sources: religious beliefs, humanistic values, especially concern for future generations, and "biocentric" values that vest nature with intrinsic rights, such as the right of other species to a continued existence. That Americans express moral and religious justifications for protecting the environ-ment whereas the Asians in our sample invoke anthropocentric and utilitarian justifications, is a rather surprising inversion of the stereotypical view of the East as "spiritualistic" and the West as "materialistic." The failure of our respondents to explicitly mention religious reasons for protecting nature, does not, of course, prove that religion plays no role in shaping their thinking about human relations with the environment. It may well be, as is suggested in the paper on Japan, that differences in the nature of religion in America and East Asian countries explains the lack of explicit references to religion by Asian respondents. Certainly, America stands out among Western countries for its high degree of public "religiosity." This does not, however, in any way suggest that Americans are more likely to display a higher morality in their dealings with nature than Asians; only that they are more likely to invoke moral and religious justifications in public discourse.

References

Kempton, Willard; Boster, James S.; and Hartley, Jennifer A. 1996. *Environmental Values in American Culture*. Cambridge, MA: MIT Press.
Putnam, Robert D. 2000. *Bowling Alone*. New York: Simon and Schuster.
Shore, Bradd. 1996. *Culture in Mind*. Oxford: Oxford University Press.