

Attitudes of Hong Kong Chinese  
Towards  
Wildlife Conservation  
and  
the Use of Wildlife as Medicine and Food

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*Samuel Kwok Hung Lee*  
in the Year of the Tiger

## EXECUTIVE SUMMARY

The need for this survey has been underscored by repeated instances of illegal trade in rhino horn, Tiger bone and their medicinal derivatives in Hong Kong. Therefore, TRAFFIC East Asia set out to scientifically document the demographics of those among the Hong Kong population who might be potential consumers of these products. It was hoped that documenting these demographics would aid public awareness and law enforcement efforts toward stopping illegal trade of this kind.

This research was conducted in July 1996, using random sampling methods and a telephone survey of a sample representative of the Hong Kong Chinese population as a whole. There were 1,157 successful interviews during the survey, representing a response rate of 54.3%. The standard margin of error is less than 1.5%.

This survey found that about 6.8% of Hong Kong's adult population uses TCM regularly and that users are more likely to be women than men. While about 35% of TCM users seek advice from TCM practitioners and TCM shop assistants, over 50% of TCM users would not try to ascertain the ingredients of TCM prescribed to them.

Among TCM users in Hong Kong, three-fifths (59%) claimed they would refrain from using TCM purporting to contain parts of wild animals. Perceived need and efficacy collectively were cited as one of the major reasons why TCM users would use TCM containing parts of wild animals. People with lower educational levels were found to be more willing to pay higher prices for TCM containing parts of animals taken from the wild, as opposed to animals bred in captivity. Fourteen percent of TCM users would continue to consume TCM containing endangered animals that are protected by law, while another 37% might do so "depending on the situation". Among this 37%, two-fifths (41%) would do so if it were perceived to be necessary.

Seven percent of the TCM users (or 2% of the total sample) had used TCM claiming to contain rhino horn, while another 4% of TCM users (or 1% of the total sample) had used TCM claiming to contain Tiger bone. This survey confirms that there is a residual demand among the adult population of Hong Kong for TCM containing rhino horn and/or Tiger bone, and that males and older TCM users are more likely to use such products. Sixty-five percent of "rhino horn users" and 69% of "Tiger bone users" said they would stop using medicines containing these ingredients if informed that such use were prohibited by law. Twenty-three percent of rhino horn users and 19% of Tiger bone users, however, stated they would continue using these products even if they know it were against the law.

About three-fifths (59%) of the adult population expressed concern about endangered species. More than three-fourths (77%) of these respondents agreed to give up certain TCM if that would help save wildlife from extinction. Nearly 70% of the adult population expressed the belief that humans would be adversely affected if wild animals were to become extinct. The majority of people found to be supportive of wildlife conservation were younger and better educated.

Users of TCM were generally more supportive of wildlife conservation than were non-users. Among TCM users, those who do not use TCM containing wild animal parts expressed more concern for wildlife conservation than did those who use TCM containing wild animal parts. Those people who used TCM containing wild animal parts in general did not feel that their use of wildlife as medicine has an impact on the ecology.

Three-quarters (74%) of TCM users support the use of laws to prohibit the use of endangered animals as TCM ingredients. Only 14% of the TCM users would definitely continue to use TCM containing ingredients derived from animals protected by law despite being informed of legal

prohibitions. Sixty-five percent of “rhino horn users” and 67% of “Tiger bone users” would stop such use if they were informed of such prohibitions.

One-third (33%) of the adult population had consumed exotic animals. Males and older people were more likely to have eaten exotic animals. Snake was the most popular exotic animal for consumption, China the most popular place for eating exotic animals, followed closely by Hong Kong. More than half of the adult population had consumed tonics containing wild animal derivatives. Females and the younger generation were found to be the main users of these health tonics.

In summary, this survey found that a majority of Hong Kong Chinese, and especially those who use TCM, expressed concern about wildlife and wildlife conservation and would voice support if they were well informed of the relevant issues.

Effective channels of communication have to be explored to convey the issue of the relationship of TCM and wildlife conservation to the members of the TCM community (particularly TCM practitioners, shop assistants and students studying TCM) and TCM users. Local legislation and regulatory measures implementing CITES should be incorporated in TCM courses in Hong Kong. Disciplinary mechanisms to self-regulate the use and trade in endangered species within the TCM community should be encouraged by the proposed statutory TCM body in Hong Kong.

Among the target end-user consumer, males and older TCM users, who are more likely to consume rhino horn or Tiger bone, should be the target group. The “undecided users of endangered animal parts” should be polled in order to document their deciding factors. New immigrants from the Chinese mainland (>1.7 million in the next 20 years) should be targeted in public education programmes.

Alternatives and substitutes which have proven effective should be explored and promoted among TCM users and TCM practitioners. Consideration also should be given to further exploring options for captive breeding and propagation of medicinal species, in order to relieve commercial pressure on the wild populations.

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## 1. INTRODUCTION

All species of the rhinoceros (*Rhinocerotidae spp.*) and the Tiger (*Panthera tigris*) have been listed on Appendix I<sup>1</sup> of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) since 1977 and 1987, respectively. International trade in rhinoceroses and Tigers, their body parts and derivatives have consequently been banned since the corresponding dates.

In Hong Kong, the import of rhinoceros horn for commercial purposes was banned in 1979 under the Animals and Plants (Protection of Endangered Species) Ordinance, which is the local legislation implementing CITES. In 1986, the ban was extended to export and, in 1988, to local possession. In 1989, restrictions were extended to cover prepackaged traditional Chinese medicine (TCM) containing or purporting to contain ingredients or derivatives from rhinoceros. Import, export and possession of any product claiming to contain Tiger bone was then prohibited effective 28 January 1994. In 1995, the penalty for trade or possession of these products was raised to a maximum fine of HK\$5 million (approximately US\$650,000) and up to two years imprisonment.

However, despite these prohibitions, which are some of the toughest implemented worldwide, there continues to be residual trade in these products in Hong Kong. In April 1996, two shops selling traditional Chinese medicines were raided by the Agriculture and Fisheries Department, the CITES Management Authority in Hong Kong. Prepackaged Chinese medicine purporting to contain Tiger bones and rhino horns as ingredients were found in the shops. The owners were prosecuted and subsequently convicted, sentenced to fines of HK\$250,000 (US\$32,300) in one case and HK\$150,000 (US\$19,400) in the other. Later in that year, a traditional Chinese medicine shop operator was fined HK\$150,000 (US\$19,400) after pleading guilty of possessing some 115 kilograms of musk grain and pod, other regulated derivatives of CITES species under the local legislation, without a proper permit. The goods were estimated to be worth over HK\$12 million (US\$1.6 million).

The fact that these and other similar incidents still continues despite extensive public awareness efforts and stiff penalties handed down by Hong Kong's judiciary suggests a stubborn residual demand for medicines containing rhino horn and Tiger bone. This demand seems to back suggestions by at least one sociologist (Kidder, 1983) that laws cannot and do not change practices that are deeply-rooted and accepted in cultural tradition.

In order to learn more about the demographics of those who continue to use rhino horn and Tiger bone in the face of such high legal and financial risks, TRAFFIC East Asia undertook a sociological survey of the attitudes of Hong Kong Chinese towards the consumption of wildlife as medicine and food. TRAFFIC hopes that by learning more about the demand in the Hong Kong market for endangered species and the attitudes of Hong Kong Chinese towards wildlife conservation would help to guide future public awareness and educational programmes, as well as aid law enforcement efforts.

It should be noted that, due to the ban in Hong Kong on trade and possession of rhino horn and Tiger bone and their derivatives, TRAFFIC felt it necessary to pose questions in an indirect manner. Otherwise, as shown in previous TRAFFIC surveys (Mills, 1993), respondents might have been reluctant to discuss the subject matter.

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<sup>1</sup> Appendix I of the CITES lists species threatened with extinction which are or may be affected by trade. Trade in specimens of these species is subject to strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances. Trade in specimens listed on the Appendix I for commercial purpose is prohibited. Please refer to Annex 4 for more information.



## 2. AIM AND OBJECTIVES

It is clear from the law enforcement cases that some residents of Hong Kong still continue to use rhino horn, Tiger bone and their derivatives as medicines. The aim of this survey was to scientifically measure the attitudes of Hong Kong's Chinese population toward the use of wildlife as medicine and food and to find out what percentage of Hong Kong's population may be potential consumers of such products. Specifically, the survey was designed to:

1. Document the demographics of Hong Kong Chinese who use wildlife as medicine and food.
2. Document the demographics of those who have used medicines containing rhino horn and/or Tiger bone, as well as the demographics of those who may persist in such use despite being aware of legal prohibitions.
3. Document the attitudes of Hong Kong Chinese towards wildlife conservation.
4. Compare the attitudes toward wildlife conservation among TCM users with those of non-users.

### 3. METHODS

#### 3.1 The Survey

Commissioned by TRAFFIC East Asia, the Social Sciences Research Centre (SSRC) of the University of Hong Kong conducted a public opinion programme (POP), in the form of a structured questionnaire in July 1996. This POP aimed to document the attitudes of Hong Kong Chinese toward wildlife conservation and traditional Chinese medicine (TCM), and their use of wildlife as medicine and food.

The target sample population was made up of Cantonese-speaking residents, aged 18 or above. Due to limited existing data on the demographic profile of TCM users in Hong Kong, a random sampling method was used instead of a stratified or quota sampling method to select respondents.

Samples were selected by SSRC's standard POP sampling method, whereby telephone numbers are first drawn randomly from residential telephone directories as "seed numbers". Additional numbers were generated by computer, using the SSRC's "seed plus/minus 1,2" method so as to include possible unlisted telephone numbers. Duplicated numbers, if any, in new samples were eliminated, and the final set of telephone numbers was chosen randomly for dialing.

Interviews were conducted by telephone in Cantonese on the evenings of 8 and 9 July 1996. In the incidence that more than one eligible respondent was available in targeted households, the household member whose birthday would come next at the time of interview was asked to respond. During the survey, there were 1,157 successful cases, representing a response rate of 54.3%, which is close to the average for POPs conducted by the SSRC. The standard margin of error is less than 1.5%. The demographic profile of survey respondents is appended to this report (Annex 1).

The questionnaire was designed by TRAFFIC East Asia, with assistance from the SSRC. Apart from inquiries used for sampling purposes, the questionnaire consists of six questions on the respondents' usage and knowledge of TCM in general, eight questions on usage of TCM with derivatives of wild animals as ingredients, six questions on respondents' attitudes towards wildlife conservation, seven questions on the consumption of exotic animals and tonics containing derivatives of selected wildlife, and seven questions on personal particulars to facilitate demographic analysis. The questionnaire is also appended to this report (Annex 2). In case of ambiguity due to translation, please refer to the Chinese-language version for the exact meaning (Annex 3).

### 3.2 Operational Definitions

- TCM:** For the purpose of this survey, TCM, traditional Chinese medicine, refers to raw or semi-processed parts or derivatives of animal or plants that are considered to have medicinal value, excluding tonic food and prepackaged TCM, or so-called over-the-counter TCM products.
- Exotic animal:** For the purpose of this survey, which is in the context of Hong Kong and southern China, “exotic animals” refers to animals that are eaten for the purpose of, in TCM terms, *warming up* the body and do not constitute a part of one’s normal diet.
- Tonic food:** For the purpose of this survey, tonic food refers to foods that are made from parts or derivatives of animal or plants, and are consumed for the purpose of enhancing bodily functions and not primarily for curing disease.

### 3.3 Glossary

- CITES:** Convention on International Trade in Endangered Species of Wild Fauna and Flora
- ECC:** Environmental Campaign Committee
- PCCM:** Preparatory Committee for Chinese Medicine
- POP:** Public Opinion Poll
- SSRC:** Social Sciences Research Centre
- TCM:** Traditional Chinese Medicine
- TRAFFIC:** Trade Records Analysis of Flora and Fauna in Commerce

## 4. LITERATURE REVIEW

### 4.1 Definition of Attitudes

For the purposes of this survey, "attitude" is defined as an expression of a fundamental belief one holds and how such belief plays a role in one's behaviour (Hart and McClaren, 1978; Hines *et al.*, 1987).

### 4.2 Attitudinal Surveys Regarding Environmental Issues

Arcury (1990) suggested that knowledge of environmental issues is consistently and positively related to attitudes about environmental issues, although the relationship is not particularly strong. Knowledge is identified as a prerequisite to environmental action (Hines *et al.*, 1987; Newhouse, 1990). However, O'Riordan (1976) and Schoenfeld and Griffen (1981) have shown that attitude does not necessarily establish a specific behavioural pattern or lead to action.

Previous studies have suggested that age, education and income, among other demographic factors, correlate positively to respondents' attitudes toward the environment (Dunlap and Catton, 1979; Van Liere and Dunlap, 1980; Cotgrove, 1982; Milbrath, 1984; Caron, 1989; Arcury and Christianson, 1993; Gambro and Switzky, 1996; Hampel *et al.*, 1996; Skogen, 1996; Tranter, 1996).

Studies on the role of gender have produced mixed results. While some suggest men are generally more concerned with the environment than are women (Roth and Perez, 1989; Arcury and Christianson, 1993), others have suggested women are more environmentally-conscious than men (Milbrath, 1984; Papadakis, 1993; Dalton, 1994; McAllister, 1994; Hampel *et al.*, 1996; Zimmermann, 1996).

In a telephone survey of 680 American residents, Arcury (1990) found that age had a substantial and significant inverse association with environmental attitudes. Female respondents seemed to show an inverse relationship between their age and their levels of knowledge and attitudes toward the environment. At the same time, both educational and income levels demonstrated direct and relatively strong associations with environmental knowledge and attitudes.

A study of 5,624 Norwegian youth, aged 13-19, by Skogen (1996) demonstrated that respondents' social class, gender, education and parental occupation influence their attitudes toward the environmental movement and related issues. Skogen (1996) suggested that the level of education received by respondents affects their future occupations, which in turn helps determine their working relationship with and exposure to nature.

Dolin (1988) attempted to explore whether race influences people's attitudes towards wildlife in the United States and concluded that African Americans' interest in and knowledge about wildlife was limited, and generally less than that of Caucasian Americans. However, Sheppard (1995) argued that African Americans' socio-economic status was a more significant influence than race. Caron (1989) explained that the topic was a matter of personal priority and that such issues as poverty and discrimination understandably were more relevant to African Americans. Mitchell (1979) found that blacks and whites in the United States showed equal support for environmental concerns.

In an attempt to verify whether public concern for environmental quality is linked to levels of affluence, Dunlap and Mertig (1995) compared "wealthy nations" and "poor nations" on the basis of per capita gross national product (GNP). They concluded that, overall, national affluence is more often negatively rather than positively related to concern for environmental quality.

Hausbeck, *et al* (1992) and Arcury and Christianson (1993) looked into whether there is a difference in environmental knowledge between urban and rural populations. While Hausbeck, *et al* (1992) concluded that, in New York state, students growing up in the city had less knowledge, awareness and concern about the environment than their counterparts growing up in suburban or rural areas, Arcury and Christianson (1993) found no consistent differences between the two groups. However, the latter study did find differences based on education and income.

Early experiences such as walking in a park or forest, or even in a well-vegetated schoolyard, were found to be associated with greater environmental concern (Dunlap and Heffernan, 1975; Tanner, 1980; Harvey, 1989; Newhouse, 1990; Palmer, 1993). On the basis of surveying 661 Year-10 students from six Victorian State schools in Australia, Hampel, *et al* (1996), however, suggested that such "wilderness experience" on the part of the respondents was mitigated by, and was less significant than, gender and socio-economic factors.

In a nationwide survey in the United States, it was reported that a majority of Americans expressed a willingness to protect endangered species despite potentially adverse socio-economic impacts (Mitchell, 1980). A growth in such support was found in nine opinion polls conducted between 1976 and 1985 (Gillroy and Shapiro, 1986), and continued to expand in a 1989 trend analysis by Dunlap and Scarce (1991). Gigliotti (1992) suggested that a propensity for personal sacrifice was unlikely to develop further, as secondary data analysis of three attitude surveys among undergraduate students revealed a belief that technology alone can solve environmental problems.

Studies by McKean (1981) and Pierce, *et al* (1986) suggested that environmental concerns among the Japanese public largely focused on local issues and were far more orientated towards pollution and human health concerns than the preservation and protection of the natural environment. Another opinion survey revealed that only 26% of the Japanese public believed "the reduction of wildlife species is a serious problem", compared with 42% of European respondents who shared the same view (Anon., 1986). Kellert (1990) found that only a limited appreciation of nature and wildlife was identified among a group of 450 randomly-selected Japanese.

When comparing the attitudes of Japanese towards animals and nature to those of Americans, Kellert (1990) concluded that the Japanese public appeared to place far greater value than did the American public on satisfaction derived from control and mastery over nature. Conversely, the Americans expressed a much stronger ethical and ecological perspective toward nature and wildlife than did the Japanese.

### 4.3 Environmental Attitudes in Hong Kong

Following a scale developed by Maloney *et al* (1975), Siu (1990) conducted a study measuring "affect" (as in affection toward), "verbal commitment," "actual commitment" and "knowledge" of some environmental issues in Hong Kong. Comparing 233 students receiving tertiary education and 358 "non-college people" through a quota sampling, Siu (1990) concluded that respondents generally obtained high scores in "affect", "verbal commitment" and "knowledge", but acquired low scores in "actual commitment". Siu (1990) also suggested that education is not a "major contributing factor" affecting people's emotional feeling towards the environment, nor in influencing people's verbal or actual commitment to act with regard to environmental issues. In fact, findings showed that people falling under the categories of "housewife" and "unemployed" attained higher scores in "actual commitment", and that education may have a negative effect on "actual commitment".

Ng (1991) attempted to examine the attitudes of secondary students towards environmental issues by adapting the "New Environmental Paradigm" scale developed by Dunlap and Van Liere (1978) to a group of 1,527 in a geographically-stratified sample. Ng (1991) found that younger respondents and those who possessed higher levels of education generally were more willing to pay extra taxes for environmental protection.

Wong and Yan (1995) made a similar attempt, using 1,670 secondary school teachers as their sample. They concluded that attitudes toward environmental issues were slightly more developed than those found among the general public in 1991 (Ng, 1991). In another survey (Ng and Ho, 1995), using a sample of 1,031 respondents and the same scale, the score of the respondents, 3.83, was found to be slightly higher than a mean score of 3.52 cited by an earlier study (Ng, 1991), indicating growing environmental concern.

In a statistically-representative survey, over 98% of Hong Kong people agreed that "individuals have a responsibility to protect the environment" (Anon., 1993a; Anon., 1995). However, when the respondents were asked whether they had actually acted on that belief by practicing activities such as recycling, participation rates were between 47% and 80% (Anon., 1993a; Anon., 1995). In addition, Hong Kong was ranked twentieth on a list of forty countries and territories in expressed willingness "to sacrifice for environmental protection" (Lee, *et al.*, 1997).

On the basis of 992 mailed questionnaires returned from 28 of 44 secondary schools selected to geographically represent the New Territories of Hong Kong, Chan (1994) attempted to measure Hong Kong students' attitudes toward environmental issues and their "readiness" to engage in a range of pro-environmental behaviours. This study found that the respondents had strong positive attitudes toward conservation of wild animals and natural resources and that they were willing to "do something" to protect the environment.

Through another 538 mailed questionnaires from 30 out of 40 geographically selected secondary schools in the New Territories of Hong Kong, Chan (1995) found that 86% of the respondents correctly identified the medicinal value of rhino horns, for which the demand once led to a large number of rhinos being killed in the wild. However, less than 60% were able to identify "the whale" as an endangered species. It was also found that male students scored slightly higher than female students in environmental knowledge.

Using a survey interviewing 745 randomly selected persons in Hong Kong, Chan (1996) concluded that respondents demonstrated a positive attitude towards conservation of the environment and were willing to exercise some degree of personal commitment to protect the environment. No significant difference was found between environmental attitude and age or gender. However, the level of education appeared to correlate positively to both knowledge and attitude.

#### 4.4 TCM in Hong Kong

In Hong Kong, Western medicine is the predominant form of health care (Lee, 1980; Wong, *et al.*, 1993), although options are pluralistic and diversified (Lee, 1980; Koo, 1987). A majority of the population in Hong Kong consults doctors with Western medical training (Wong, *et al.*, 1993), while between 6% and 10% consult traditional Chinese medicine (TCM) practitioners (Hedley, *et al.*, 1990; Anon., 1990; Anon., 1991; Anon., 1994; Wong, *et al.*, 1993). Anon. (1996b), however, suggested that 40% of the population in mainland China (other than Hong Kong and Macau) relies primarily on TCM.

Currently, there are no regulations on the practice of TCM in Hong Kong. Under the Article 138 of the Basic Law, which is the constitution of the Hong Kong Special Administrative Region (SAR)

of China and took effect when Hong Kong reverted to Chinese sovereignty on 1 July 1997, the Hong Kong SAR Government has begun to look into the establishment of relevant regulations to control the practice and use of TCM.

There were about 6,750 TCM practitioners who enrolled under an enrollment scheme initiated by Hong Kong's Preparatory Committee for Chinese Medicine (PCCM) in 1996. Among those, over 60% were general medicine practitioners (generally referred to as herbalists), 20% were bone-setters and less than 10% were acupuncturists (PCCM, 1997).

#### 4.5 Consumption of Exotic Animals as Food and Tonic in Hong Kong

Lau, *et al* (1996) documented that, between November 1993 and October 1994, some 83,000 snakes were imported from China to Hong Kong as tonic food. During the same period, about 30,000 francolins (*Francolinus pintadeanus*), 94,000 wild ducks and 652 civet cats were imported from China to Hong Kong as food.

In a survey involving 961 personal interviews (Anon., 1989), more than 70% of respondents admitted eating exotic animals, the majority of those being men. In another similar survey conducted in 1993, consumption of some selected exotic animals - specifically civet cat (*Paguma larvata*, *Viverricula indica*, *Viverra zibetha*), barking deer (*Muntiacus reevesi*), pangolin (*Manis pentadactyla*), and some birds of prey - were correlated to sex and age (Anon., 1993b). In this case, those who have eaten these animals were mostly older males.

In both surveys cited above, snake was the most commonly consumed exotic animal (Anon., 1989; Anon., 1993b). However, no significant correlation was found among snake-eaters with regard to sex, age, income group or level of education (Anon., 1989; Hills, 1989). Generally, the peak season for the consumption of exotic animals tends to be during the cooler months of the year (Lau, *et al*, 1996; Umstot, 1996), as snake is regarded to have the effect of "warming" the body during the winter. Umstot (1996) observed that an unusually warm winter in 1994 resulted in a significant reduction in snake consumption in Hong Kong.

#### 4.6 Population of Hong Kong

The estimated population of Hong Kong as of 1997 was 6.5 million (Anon., 1997). Some 95% of the population speaks Cantonese (Anon., 1996a). It is projected that the population will reach 7.47 million by the year 2007; and 8.21 million by 2016. Among the new inhabitants as of 2007, three-fifths, or 1.04 million people, are projected to be immigrants from the the rest of China (Anon., 1997).

## 5. RESULTS AND DISCUSSION

The results of the survey, together with cross-tabulation of some selected questions and demographic characteristics, are presented and discussed below. The following discussions are arranged in five broad areas, namely: general pattern of TCM usage, usage of TCM with wild animals as ingredients, attitudes towards endangered species, attitudes of TCM users versus non-TCM users, and consumption of exotic animals and tonic food.



### 5.1 General Pattern of TCM Usage

Among the 1,157 respondents interviewed in this survey, 403 (35%), said they had taken or used TCM<sup>2</sup> at least once, and this group of respondents is termed as "TCM users". Another 746 (65%) claimed they had never used TCM and are termed as "non-TCM users" (Q6). The "usage rate" of TCM among the adult population, therefore, was found to be 35%, or about one individual in three.

However, among the 403 TCM users, only 19% (77 of 403), or 6.8% of the overall adult population, were "regular users". This is by and large consistent with the findings of previous inquiries into the medical consultation pattern in Hong Kong showing between 6% to 10% of the population regularly consulted traditional Chinese medicine practitioners (Hedley, 1990; Anon., 1990; Anon., 1991; Anon., 1994; Wong *et al*, 1993).

Table 5.1: Responses to Question 6.

Q6 Have you ever taken or used TCM externally, such as elk deer horn, musk, etc. (If yes, how often)?		
	Frequency	Percent
Once or more than once a day	5	.5 )
Once or more than once a week	8	.7 )
Once or more than once a month	15	1.3 )
Once or more than once a quarter	19	1.7 )
Once or more than once a year	30	2.6 ) 6.8
Once or more than once every five years	17	1.5 )
Yes, but not regularly	309	26.7 ) 35.0
Never	746	64.6
Don't know what TCM is	3	.2
Not sure	4	.3
	-----	-----
	1,157	100.0

Results show that 26% of TCM users took their advice from TCM practitioners, while another 9% took theirs from TCM shop assistants. Combined, they formed the largest "reference group" for TCM users. Family members and relatives formed the second largest reference group, accounting for another 24%. However, if this group is expanded to include friends, neighbours and colleagues under the term "relatives and friends," the figure goes up to 32%, which is very close to that of the first group. Information acquired through the mass media accounted for another 17%.

It was also found that 53% of TCM users said they do not try to learn the contents of TCM products before using them. Only 34% said they do, while another 11% said they only do so sometimes.

<sup>2</sup> Refer to Section 3.2 for definitions.



Table 5.2: Responses to Question 10.

Q10 (For all TCM users, base=403) From whom or which source do you take advice from about the use of TCM?		
	Frequency	Percent
TCM practitioners	106	26.3 )
TCM shop assistants	37	9.3 ) 35.6
Parents	50	12.4 )
Children	1	.3 )
Siblings	2	.5 )
Senior relatives	34	8.4 )
Relatives	10	2.6 ) 24.1 )
		)
Neighbours	5	1.2 ) )
Colleagues	3	.7 ) )
Friends	25	6.2 ) 8.1 ) 32.2
Books	10	2.4 )
TV, radio	22	5.4 )
Newspaper, magazine	38	9.3 ) 17.2
Others	17	4.3
No one particular source	14	3.4
Don't know/hard to say	30	7.4
	-----	-----
	402	100.0

Table 5.3: Responses to Question 11.

Q11 (For all TCM users, base=403) Do you try to familiarize yourself with the contents of TCMS before using them?		
	Frequency	Percent
Yes	135	33.6
Sometimes	43	10.7
No	212	52.6
Don't know/hard to say	13	3.1
	-----	-----
	403	100.0

This survey found that women (60%) are more likely than men (40%) to be regular TCM users. Anon. (1994) also found that "housewives" consulted TCM practitioners more frequently than did people in other categories.

Table 5.4: Cross-tabulation of Question 6 by Gender (*Have you ever taken or used TCM externally, such as elk deer horn, musk, etc.? If yes, ask how often.*)

Q6	Count Col Pct	GENDER		Row
		Male	Female	
Once or more than once a day	4 .8	1 .2	5 .5	
Once or more than once a week	3 .6	5 .8	8 .7	
Once or more than once a month	5 .9	9 1.6	15 1.3	
Once or more than once a quarter	4 .8	15 2.5	19 1.7	
Once or more than once a year	14 2.5	16 2.7	30 2.6	
Once or more than once every 5 yrs	8 1.3	9 1.6	17 1.5	
Not regular/ hard to say	154 26.7	155 26.8	309 26.7	
Never	382 66.1	365 63.1	746 64.6	
Don't know what is TCM		3 .5	3 .2	
Not sure whether eaten or not	2 .4	2 .3	4 .3	
Column Total		577 50.0	579 50.0	1,156 100.0

## 5.2 Usage of TCM Containing Wild Animal Parts as Ingredients

Among the TCM users, 59% said they would not take TCM which contained wild animal ingredients, 20% said they would, while 13% said it depended on the situation (Q7). It is, therefore, suggested that about three-fifths of all TCM users would refrain from using TCM that contained ingredients derived from wild animals, while the remaining two-fifths might use such products under certain circumstances. When findings from Q6 and Q7 are grouped together, the ratio between 1) users, including known regular and potential users, of TCM with wild animal parts; 2) users of TCM without wild animal parts; and 3) non-TCM users among the adult population, was roughly 2:3:10.

While almost 60% of TCM users said they would not use TCM containing wild animal parts, more than half of the TCM users would not try to learn the contents of TCM products before using them (Q11). This poses a question as to whether those TCM users would actually know if in fact they were consuming medicines containing wild animal parts.

Table 5.5: Responses to Question 7.

Q7 (For TCM users only) Would you take TCM that contains wild animal parts as ingredients?		
	Frequency	Percent
Yes	82	20.3
No	235	58.6
Depends	52	12.9
Don't know/hard to say	33	8.1
	-----	-----
	402	100.0

When respondents who said they would use TCM containing wild animal ingredients were asked the reason why they would use this type of TCM (Q8), the belief in the efficacy of such medicines was most frequently cited (by 20% of the relevant respondents, constituting 17% of all responses given), followed by recommendations from family members or friends (18% of respondents, 16% of all responses). Only 7% cited Chinese tradition as a motivation, and 5% cited a lack of side effects from TCM.

However, grouped under broad categories, 40% of the responses cited sickness-related factors, against 29% that cited the influence of others. For those respondents who would refrain from using TCM with wild animal parts (but were TCM users), 32% of the respondents did not give any reason (Q9), while the most frequently indicated reasons were related to the lack of a perceived need (21% of all responses), concern for wildlife (14%), and perceived prohibition by law (10%).

Table 5.6: Responses to Question 8.

Q8 (For users of TCM containing wild animal parts) Why would you take them?  
(Multiple response, all choices allowed)

	Frequency	Percent per Responses (Base=94)	
TCM is more effective than Western medicine	16	17.2 )	
My illness requires such medicine	12	13.0 )	
Because I am sick	9	9.6 )	39.8
Recommended by family members/friends	15	16.1 )	
Prescribed by doctor	12	13.1 )	29.2
TCM is the Chinese tradition	7	7.3	
TCM does not have side effects	5	5.3	
I don't want to change my habits	4	3.9	
I use TCM only	1	1.0	
Other reasons	11	11.4	
Don't know/hard to say	2	2.2	
	-----	-----	
	94	100.0	

Table 5.7: Responses to Question 9.

Q9 (For TCM users who would not use TCM containing wild animal parts) Why would you not take them? (Multiple response, all choices allowed)

	Frequency	Percent per Responses (Base=238)	Percent per Respondents (Base=235)
No need to use them	26	11.1 )	11.1
They are not effective	12	5.1 )	5.1
Doctor says not to	11	4.7 )	20.9
Wildlife would become extinct	27	11.2 )	11.5
It's too cruel	6	2.3 )	13.5
Prohibited by law	23	9.8	9.8
Not available in the market	6	2.7	2.6
I am a vegetarian	6	2.5	2.6
Afraid of bacteria	6	2.4	2.6
Not my practice	5	2.2	2.1
Too expensive	4	1.6	1.7
Not knowledgeable enough	4	1.5	1.7
Others	29	12.1	12.3
Don't know/hard to say	74	31.0	31.5
	-----	-----	
	238	100.0	

When those TCM users who might use TCM containing wild animal ingredients (41% of all TCM users, Q7) were further asked what they would do if the TCM was known to contain ingredients derived from animals that are protected by law, 31% said they would immediately stop using that medicine, and 7% said they would use less (Q12). Only 14% (or 6% of all TCM users) said they would continue to use the medicine in question as usual. Another 37%, the largest single group of TCM users, said their decision would depend on the situation.

Table 5.8: Responses to Question 12.

	Frequency	Percent	Percent of total TCM users (Base=403)
Keep on using as usual	24	14.2	6.0
Use less	12	7.0	3.0
Stop using immediately	51	30.8	12.7
Depends on the situation	61	36.7	15.1
Others	2	1.2	0.5
Don't know/hard to say	17	10.1	4.2
	-----	-----	-----
	166	100.0	41.5

For those who might continue to use TCM containing ingredients derived from animals protected by law, 41% of the TCM users would only use them as a last resort, when they considered Western medicine to have failed or in case of extreme illness (some 80% of the TCM users in Hong Kong agreed that TCM can sometimes treat diseases that cannot be treated by Western medicine, see Q14), or when prescribed by TCM practitioners (24%) (Q13).

Table 5.9: Responses to Question 13.

	Frequency	Percent per Responses (Base=135)	Percent per Respondents (Base=115)	Percent per TCM users (Base=403)
In case of extreme illness	30	22.2	41.2	7.4
When western medicine failed	26	19.0		22.6
Prescribed by doctor	32	23.8	27.8	7.9
Recommended by family members/friends	15	11.2	13.0	3.7
If I had the opportunity	15	11.0	13.0	3.7
If the price is reasonable	3	2.3	2.6	0.7
Others	7	5.4	6.1	0.2
Hard to say	7	5.1	6.1	0.2
	-----	-----		
	135	100.0		

Since more than half of the TCM users would not try to learn the contents of prescribed TCM products and since TCM practitioners and TCM shop assistants together constitute the group which most influences the TCM users, workers in the TCM community may be the most prominent force in determining whether wild animal parts are consumed.

This survey shows that 80% of all TCM users agreed that TCM can sometimes treat diseases which cannot be treated by Western medicine. Only 6% disagreed, while 15% were unsure.

Table 5.10: Responses to Question 14.

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Q14 (For all TCM users, base=403) Do you agree that TCM can sometimes treat sickness that cannot be treated by Western medicine?

	Frequency	Percent
Agree	320	79.5
Disagree	23	5.6
Don't know/hard to say	60	14.9
	-----	-----
	403	100.0

When the respondents were asked to show their preference between TCM containing ingredients derived from animals caught in the wild, and those medicines with ingredients from animals bred in captivity (Q15), only 14% said they were willing to pay more for the former type; 64% said they were not. Among those who were willing to pay more for TCM containing wild animal parts, people with a lower level of education were more likely to do so than those with a higher level of education.

Table 5.11: Responses to Question 15.

Q15 (For all TCM users, base=403) Would you pay more for TCM containing ingredients derived from animals caught in the wild than for that containing parts of animals bred in captivity?

	Frequency	Percent
Yes	57	14.3
No	255	63.6
Not sure	68	16.9
Don't know/hard to say	21	5.3
	-----	-----
	401	100.0

Table 5.12: Cross-tabulation of Question 15 by Education (*Would you pay more for TCM containing ingredients derived from animals caught in the wild than for that containing parts of animals bred in captivity?*)

Q15	Count		EDU			Row	
	Col	Pct	Primary and below	Secondary	Post-secondary		
Yes	15	17.5	37	15.2	4	5.5	56
							13.9
No	42	48.9	162	66.6	55	76.1	260
							64.5
Not sure	19	21.9	39	16.2	9	12.8	68
							16.8
Don't know/ hard to say	10	11.7	5	2.1	4	5.5	19
							4.8
	Column Total		86	244	73		403
			21.4	60.6	18.0		100.0

When asked if there should be laws prohibiting the use of endangered species in TCM, 74% of TCM users supported the proposition, and 10% were noncommittal, while only 7% did not support the proposal (Q16).

Table 5.13: Responses to Question 16.

Q16 (For all TCM users, base=403) Do you support laws that prohibit the use of endangered species in TCM?		
	Frequency	Percent
Yes	300	74.4
Neutral	41	10.2
No	26	6.5
Don't know/hard to say	36	8.9
	-----	-----
	403	100.0

Furthermore, people with higher levels of education (85%) were more supportive of laws that prohibit the use of endangered species in TCM than those with lower levels of education (56%), which is consistent with previous findings that education demonstrates a significant positive correlation with environmental attitude (Arcury, 1990).

Table 5.14: Cross-tabulation of Question 16 by Education (*Do you support laws that prohibit the use of endangered species in TCM?*)

Q16	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Yes	48 55.9	190 77.6	62 84.8	301 74.3	
Neutral	9 10.0	29 12.0	5 6.7	43 10.6	
No	6 6.8	17 7.1	4 5.5	27 6.7	
Don't know/ hard to say	23 27.3	8 3.3	2 3.0	34 8.3	
Column Total		86 21.3	245 60.5	74 18.2	405 100.0

This series of questions (Q8, Q9, Q12, Q13, Q15, Q16) shows that TCM users were, on the whole, quite receptive towards wildlife conservation. While about 41% of all TCM users might use medicines containing wild animal ingredients, only 6% would definitely continue to use them if the TCM contained parts of endangered animals protected by law. That figure would go up to 24% if potential users (i.e. those who would make decision "depends on the situation" and those who answered "don't know / hard to say") were included. About three-quarters of all TCM users were in favour of legislation to protect endangered species, and only a few of those questioned preferred using wild rather than captive-bred, animals.

Where actual consumption of some selected highly endangered animals is concerned, all TCM users were asked whether they had ever taken or used rhino horns and Tiger bones (Q17 to Q20). It should be noted that, although such consumption is in fact prohibited by law in Hong Kong, questions were deliberately posed in a hypothetical scenario to encourage truthful answers.

Results show that of the 403 TCM users, only 28 (7% of all TCM users, 2% of total sample) reported that they had previously used TCM containing rhino horn, and 16 (4% of all TCM users, just over 1% of total sample) reported having used Tiger bones. When asked whether they would continue to use such items if they were prohibited by law, 65% of "rhino horn users" and 69% of "Tiger bone users" said they would not. If told that the sale of TCM containing such ingredients were banned by law, only 23% of the rhino horn users (1.5% of all TCM users) and 19% of Tiger bone users (0.7% of all TCM users) claim that they would continue to use them.



Table 5.15: Responses to Question 17.

Q17 (For all TCM users, base=403) Have you ever taken or used TCM externally containing rhino horns?		
	Frequency	Percent
Yes	28	6.9
No	356	88.4
Don't know/forgotten	19	4.7
	-----	-----
	403	100.0

Table 5.16: Responses to Question 18.

Q18 (For those answering "Yes" in Q17, base=28) If the sale of rhino horns were banned by law, would you continue to use those medicines?		
	Frequency	Percent
Yes	6	23.1
No	18	65.0
Don't know/hard to say	3	11.9
	-----	-----
	28	100.0

Table 5.17: Responses to Question 19.

Q19 (For all TCM users, base=403) Have you ever taken or used TCM externally containing Tiger bones?		
	Frequency	Percent
Yes	16	4.1
No	366	91.2
Don't know/forgotten	19	4.8
	-----	-----
	402	100.0

Table 5.18: Responses to Question 20.

Q20 (For those answering "Yes" in Q19, base=16) If the sale of Tiger bones were banned by law, would you continue to use those medicines?		
	Frequency	Percent
Yes	3	19.1
No	11	68.6
Don't know/hard to say	2	12.4
	-----	-----
	16	100.0

Among users, men were more likely to have consumed these items than women. It was not surprising to find that older people were more likely to have consumed TCM with derivatives of Tiger, such as the bones, since it is believed to be effective in the treatment of rheumatism.

Table 5.19: Cross-tabulation of Question 17 by Gender (Have you ever taken or used TCM externally containing rhino horns?)

GENDER
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Q17	Count	AGE GP		Row
	Col Pct	18-20	21-29	
Yes	17	3	7	28
	8.9	4.2	5.5	6.7
No	171	63	119	364
	86.7	89.9	89.9	88.7
Don't know/ Forgotten	9	4	6	19
	4.4	4.1	4.6	4.6
Column Total	197	70	133	411
	47.9	17.7	33.4	100.0

Table 5.20: Cross-tabulation of Question 17 by Age Group (Have you ever taken or used TCM externally containing rhino horns?)

Q17	Count	AGE GP						Row
	Col Pct	18-20	21-29	30-39	40-49	50-59	60 or above	
Yes	3	4	12	1	4	27		
	4.2	5.5	14.6	2.8	11.1	6.7		
No	44	63	119	63	31	31	352	
	95.9	89.9	89.9	79.2	94.5	86.4	88.5	
Don't know/ Forgotten	2	4	6	5	1	1	19	
	4.1	4.1	4.6	6.3	2.8	2.5	4.8	
Column Total	45	70	133	79	33	36	397	
Total	11.4	17.7	33.4	19.9	8.4	9.2	100.0	

Table 5.21: Cross-tabulation of Question 19 by Gender. (Have you ever taken or used TCM externally containing Tiger bones?)

	Count Col Pct	GENDER		Row
		Male	Female	
Q19				
Yes		11 5.6	6 3.0	17 4.2
No		175 88.9	198 93.1	373 91.1
Don't know/ forgotten		11 5.6	8 3.9	19 4.7
Column Total		197 48.1	213 51.9	410 100.0

Table 5.22: Cross-tabulation of Question 19 by Age Group. (Have you ever taken or used TCM externally containing Tiger bones?)

	Count Col Pct	AGE GP						Row
		18-20	21-29	30-39	40-49	50-59	60 or above	
Q19								
Yes		1 2.4	2 2.9	6 4.7	5 6.5	2 6.1	1 2.5	17 4.4
No		42 93.5	64 92.6	122 92.3	68 85.4	28 85.6	36 97.5	361 91.0
Don't know/ forgotten		2 4.1	3 4.5	4 3.0	6 8.1	3 8.3		18 4.6
Column Total		45 11.5	69 17.5	133 33.5	79 20.0	33 8.4	36 9.2	396 100.0

The majority of women and 50% of the men surveyed would not continue to use TCM containing rhinoceros horn and Tiger bones if told these were banned under the law. However, of those responding that they would continue to use the banned products, men were more than twice as many as likely to do so than women.

Table 5.23: Cross-tabulation of Question 18 by Gender (If the sale of rhino horns were banned by law, would you continue to use those medicines?)

	Count Col Pct	GENDER		Row Total
		Male	Female	
Q18				
Yes	5 20.8	2 9.5	7 16.0	
No	13 50.0	14 71.4	27 59.1	
Don't know/ hard to say	8 29.2	4 19.0	11 24.9	
Column Total		26 57.6	19 42.4	46 100.0

Table 5.24: Cross-tabulation of Question 18 by Education. (If the sale of rhino horns were banned by law, would you continue to use those medicines?)

	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Q18					
Yes	1 9.3	5 19.6	1 15.7	7 16.4	
No	9 73.5	14 53.4	3 50.0	26 58.2	
Don't know/ hard to say	2 17.2	7 27.0	2 34.3	11 25.4	
Column Total		12 26.3	27 60.6	6 13.1	45 100.0

Table 5.25: Cross-tabulation of Question 20 by Gender. (If the sale of Tiger bones were banned by law, would you continue to use those medicines?)

	Count Col Pct	GENDER		Row
		Male	Female	
Q20				
Yes	5 25.0	2 11.8	7 19.5	
No	12 55.0	10 64.7	22 59.0	
Don't know/ hard to say	4 20.0	4 23.5	8 21.5	
Column Total		22 58.3	16 41.7	38 100.0

Table 5.26: Cross-tabulation of Question 20 by Education. (If the sale of Tiger bones were banned by law, would you continue to use those medicines?)

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Q20	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Yes			7 29.4		7 19.5
No		6 73.9	12 50.0	4 81.4	22 59.0
Don't know/ hard to say		2 26.1	5 20.6	1 18.6	8 21.5
	Column Total	8 20.6	25 66.3	5 13.2	38 100.0

### 5.3 Attitudes Towards Wildlife Conservation

Results showed that, of the 1,157 respondents, 59% said they were either "very concerned" or "quite concerned" about endangered species; 34% were either "not very concerned" or "not concerned at all."

Table 5.27: Responses to Question 21.

Q21 Are you concerned about the issue of endangered species?		
	Frequency	Percent
Very concerned	71	6.2 )
Quite concerned	606	52.7 ) 58.9
Not very concerned	180	15.7 )
Not concerned at all	207	18.0 ) 33.7
Don't know/hard to say	85	7.4
	-----	-----
	1,149	100.0

Findings indicate that the younger generation is more concerned about endangered species. This corresponds to similar findings of previous studies (Van Liere and Dunlap, 1980; Watts and Wandesforde-Smith, 1981; Inglehart, 1990; Eyerman and Jamison, 1991; Abramson and Inglehart, 1992; Caron, 1989; Arcury, 1990; Inglehart and Abramson, 1994; Tranter, 1996).

Table 5.28: Cross-tabulation of Question 21 by Age Group. (*Are you concerned about the issue of endangered species?*)

	Count Col Pct	AGE GP						Row
		18-20	21-29	30-39	40-49	50-59	60 or above	
Q21								
Very concerned	70 6.3	12 9.0	19 8.9	13 3.9	12 6.0	6 6.8	7 5.3	70 6.3
Quite concerned	590 53.1	73 55.6	125 57.9	193 57.5	102 52.1	50 52.8	47 34.2	590 53.1
Not very concerned	173 15.6	19 14.1	36 16.6	62 18.5	30 15.4	9 9.5	17 12.4	173 15.6
Not concerned at all	200 18.0	22 16.6	29 13.6	54 16.0	44 22.6	13 14.2	38 27.3	200 18.0
Don't know/hard to say	78 7.1	6 4.6	6 3.0	14 4.1	8 3.9	16 16.7	29 20.8	78 7.1
Column Total		132 11.9	215 19.4	335 30.2	196 17.7	94 8.5	138 12.4	1,110 100.0

Contrary to the findings by Siu (1990) and Tranter (1996), which concluded that tertiary education has no significant effect on people's attitudes, this survey found that level of education plays a significant role in shaping people's attitudes towards wildlife and the use of wildlife as TCM. As was documented by Arcury and Christianson (1993), respondents with higher levels of education (72%) in the United States showed more concern for the environment than did those with lower levels of education (42%).

Table 5.29: Cross-tabulation of Question 21 by Education. (*Are you concerned about the issue of endangered species?*)

Q21	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Very concerned	10 4.1	39 5.8	22 10.5	71 6.3	
Quite concerned	94 38.2	379 55.5	129 61.9	603 52.9	
Not very concerned	32 12.9	119 17.4	26 12.7	177 15.5	
Not concerned at all	67 27.0	115 16.8	24 11.4	205 18.0	
Don't know/ hard to say	44 17.7	32 4.6	7 3.6	83 7.3	
Column Total	247 21.7	684 60.1	208 18.3	1,139 100.0	

Occupation also plays a role. Apart from students (75%) as a group, more professionals and semi-professionals (66%) expressed concern about endangered species than respondents in other occupational groups, followed by clerical workers (63%), production workers (57%) and housewives (51%). This is similar to the findings of Tranter (1996) that "human services professionals, for example, are more likely than manual workers to sign environmental petitions".

Table 5.30: Cross-tabulation of Question 21 by Occupation. (*Are you concerned about the issue of endangered species?*)

Q21	Count Col Pct	OCC					Row
		Prof & semi-prof	Clerical	Production workers	Student	House- wives	
Very concerned	12 5.8	21 7.9	12 7.1	11 9.5	7 3.7	8 4.7	71 6.4
Quite concerned	119 60.2	148 55.1	83 49.7	76 65.2	94 47.4	77 43.5	596 53.1
Not very concerned	35 18.0	45 17.0	29 17.5	13 11.2	31 15.8	18 10.4	173 15.4
Not concerned at all	27 13.9	37 13.9	34 20.8	13 11.4	46 23.3	41 23.2	200 17.8
Don't know/ hard to say	4 2.0	16 6.0	8 5.0	3 2.7	19 9.8	32 18.1	83 7.4
Column Total	197 17.5	268 23.9	166 14.8	117 10.4	198 17.6	177 15.7	1,123 100.0

Nearly 77% of the respondents believed that humans should stop using some TCM in order to help save endangered animals. Only about 5% expressed disagreement. The remaining 18% were non-committal or unable to make up their minds. Chan (1996) had a similar finding, with about 84% of

the respondents saying they would refuse to take TCM containing ingredients derived from endangered species.

Such overwhelming support could be due to the fact that the majority of the Hong Kong population does not depend on TCM for their primary health care. However, this survey found that TCM users (81.4%) were just as likely to agree with the statement than were non-TCM users (73.6%)(see section 5.4).

Table 5.31: Responses to Question 22.

Q22 Humans should stop using some TCM in order to help save endangered animals.		Frequency	Percent
Strongly agree		76	6.6 )
Agree		808	69.9 ) 76.5
Neutral/noncommittal		117	10.2
Disagree		60	5.1 )
Strongly disagree		4	.3 ) 5.4
Don't know/hard to say		91	7.9
		-----	
		1,156	100.0

The younger generation and those with higher levels of education were more willing to give up some TCM than were older people and people with lower levels of education.

Table 5.32: Cross-tabulation of Question 22 by Age Group. (Humans should stop using some TCM in order to help save endangered animals.)

Q22	Count Col Pct	AGE GP					60 or above	Row
		18-20	21-29	30-39	40-49	50-59		
Strongly agree	9 6.8	20 9.4	17 5.2	13 6.8	2 2.1	13 9.5	75 6.8	
Agree	101 76.9	163 75.3	252 75.3	139 70.6	59 62.5	66 47.1	780 70.0	
Neutral/ noncommittal	10 7.6	15 6.9	33 9.8	23 11.9	16 16.9	15 10.6	112 10.0	
Disagree	7 5.5	8 3.8	15 4.5	13 6.7	3 3.1	10 7.0	57 5.1	
Strongly disagree	1 .8	1 .4	1 .3			1 .8	4 .4	
Don't know/ hard to say	3 2.2	9 4.2	16 4.9	8 4.0	15 15.4	35 25.1	86 7.7	
Column Total		132 11.8	216 19.4	334 30.0	197 17.7	94 8.5	141 12.6	1,114 100.0



Table 5.33: Cross-tabulation of Question 22 by Education. (*Humans should stop using some TCM in order to help save endangered animals.*)

Q22	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Strongly agree	16 6.5	46 6.7	14 6.7	76 6.7	
Agree	129 51.5	519 75.8	152 73.0	801 69.9	
Neutral/ noncommittal	32 12.6	64 9.3	20 9.5	115 10.1	
Disagree	19 7.7	29 4.2	10 5.0	59 5.1	
Strongly disagree	1 .4	1 .2	2 .9	4 .4	
Don't know/ hard to say	53 21.3	26 3.8	10 4.9	90 7.8	
Column Total	251 21.9	685 59.8	209 18.3	1,145 100.0	

About 68% of the respondents believed that humans would be adversely affected if species of wild animals were to become extinct. This is consistent with the findings of a study in Hong Kong by Chan (1996), where two-thirds of respondents would not agree that "the impact of killing excessive numbers of wild animals will be balanced out in the long run". It is also similar to the results of a study by Hausbeck *et al* (1992) in the USA, in which 77% of a group of 3,200 respondents agreed that "the way we think and act has a large impact on the environment".

Table 5.34: Responses to Question 23.

Q23	Frequency	Percent
Humans will be adversely affected if wild animals gradually become extinct.		
Strongly agree	49	4.3 )
Agree	732	63.2 ) 67.5
Neutral/noncommittal	106	9.1
Disagree	144	12.4 )
Strongly disagree	4	.3 ) 12.7
Don't know/hard to say	122	10.6
	1,157	100.0

Nearly 70% of the respondents believed that use of wild animals as food or medicine pose a threat to the ecology, while about 12% of respondents disagreed. Among the supporters, people with higher levels of education were more likely to agree with this supposition than those with lower levels of education.

Table 5.35: Responses to Question 24.

Q24	My use of wild animals as food or medicine will pose a threat to the ecology.
-----	---

	Frequency	Percent
Strongly agree	62	5.4 )
Agree	735	63.6 ) 69.0
Neutral/noncommittal	99	8.6
Disagree	129	11.1 )
Strongly disagree	6	.5 ) 11.6
Don't know/hard to say	125	10.8
	-----	
	1,157	100.0

Table 5.36: Cross-tabulation of Question 24 by Education. (My use of wild animals as food or medicine will pose a threat to the ecology.)

Q24	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Strongly agree	6 2.3	37 5.4	20 9.4	62 5.4	
Agree	118 46.7	471 68.7	141 67.4	729 63.6	
Neutral/ noncommittal	25 10.0	57 8.3	16 7.8	98 8.6	
Disagree	30 11.8	75 10.9	22 10.3	126 11.0	
Strongly disagree	3 1.2	3 .4		6 .5	
Don't know/ hard to say	70 28.0	43 6.3	11 5.1	124 10.8	
Column Total		252 22.0	685 59.8	209 18.2	1,146 100.0

About 41% of the respondents believed that food and medicine made from wild animals have more of a psychological than a real effect, while about 27% did not hold such a belief. People with lower levels of education tended to agree more so than people with higher levels of education.

Table 5.37: Responses to Question 25.

Q25 Food and medicine made from wild animals have more of a psychological than a real effect.		Frequency	Percent
Strongly agree		34	3.0 )
Agree		437	37.9 ) 40.9
Neutral/noncommittal		161	14.0
Disagree		284	24.6 )
Strongly disagree		21	1.9 ) 26.5
Don't know/hard to say		217	18.8
		1,155	100.0

Table 5.38: Cross-tabulation of Question 25 by Education (*Food and medicine made from wild animals have more of a psychological than a real effect*).

Q25	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Strongly agree	7 2.8	20 3.0	7 3.3	34 3.0	
Agree	91 36.1	285 41.6	59 28.3	434 38.0	
Neutral/ noncommittal	29 11.6	95 13.8	37 17.5	160 14.0	
Disagree	40 15.9	178 26.1	63 30.4	282 24.6	
Strongly disagree	4 1.5	14 2.1	3 1.6	21 1.9	
Don't know/ hard to say	81 32.1	92 13.4	40 18.9	212 18.5	
Column Total	251 21.9	684 59.8	209 18.3	1,144 100.0	

### 5.4 Attitudes of TCM Users Versus Non-Users

With regard to the four questions set to gauge respondents' levels of concern for wildlife (Q22 to Q25), TCM users generally scored higher than non-users. When asked to rate their own concern for endangered species, TCM users were more likely than non-users to say they were concerned (73% versus 51%), as shown in the following table.

On the whole, 59% of the respondents said they were either "very concerned" or "quite concerned" about endangered species; and 34% were either "not very concerned" or "not concerned at all." When the respondents were broken down into TCM users versus non-users, 73% of TCM users said they were concerned, while 22% said they were not. The corresponding figures for non-users are 51% and 40%, respectively, indicating that a higher percentage of TCM users were concerned about wildlife than non-users.

When TCM users were further broken down into users who consumed TCM with wild animal parts and those who did not, results showed that the latter group scored 77%, while the former group scored only 67%. Therefore, those TCM users who did not consume TCM with wild animal parts were most concerned with wildlife, while those who never used TCM cared the least, possibly because they had never given thought to wildlife issues. Similar patterns were depicted regarding questions of general attitudes Q22 to Q25, as follows:

Table 5.39: Comparison of attitudes between TCM users and non-TCM users by Question 21 (*Are you concerned about the issue of endangered species?*)

	All respondents			TCM users		Non-TCM users	
	Frequency	Percent		Percent (Base=403)		Percent (Base=746)	
Very concerned	71	6.2 )		11.4 )		3.5 )	
Quite concerned	606	52.7 )	58.9	61.4 )	72.8	47.9 )	51.4
Not very concerned	180	15.7 )		10.6 )		18.5 )	
Not concerned at all	207	18.0 )	33.7	11.7 )	22.3	21.3 )	39.8
Don't know/hard to say	85	7.4		4.9		8.8	
	1,149	100.0		100.0		100.0	
				<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Users of TCM with wild animal parts</p> <p>Percent (Base=81)</p> </div> <div style="text-align: center;"> <p>Users of TCM without wild animal parts</p> <p>Percent (Base=233)</p> </div> </div>			
Very concerned		10.0 )				14.6 )	
Quite concerned		57.0 )	67.0			62.5 )	77.1
Not very concerned		14.1 )				10.0 )	
Not concerned at all		11.9 )	26.0			10.0 )	20.0
Don't know/hard to say		7.1				2.9	
		100.0				100.0	

The two statements, "my use of wild animals as food or medicine will pose a threat to the ecology" (Q23) and "humans will be adversely affected if wild animals gradually become extinct in the wild" (Q24), drew similar levels of support. Among TCM users in general, about 72% agreed to the above statements, as did about 66% of non-users, and about 77% of users of TCM without wild animal parts. Users of TCM containing wild animal ingredients, on the other hand, agreed less

with the first statement (64% only). Chan (1996) found that 76% of respondents disagreed with the statement that "we should not worry about killing too many wild animals because things will balance out in the long run".

Table 5.40: Comparison of "willingness to give up" between TCM users and non-TCM users by Question 22  
(*Humans should stop using some TCM in order to help save endangered animals.*)

	All respondents		TCM users		Non-TCM users	
	Frequency	Percent	Percent (Base=402)	Percent (Base=402)	Percent (Base=746)	Percent (Base=746)
Strongly agree	76	6.6 )	9.9 )		4.9 )	
Agree	808	69.9 )	76.5 )	71.5 ) 81.4	68.7 )	73.6
Neutral/noncommittal	117	10.2		9.6	10.5	
Disagree	60	5.1 )		3.6 )	6.0 )	
Strongly disagree	4	.3 )	5.4	.5 ) 4.1	.3 )	6.3
Don't know/hard to say	91	7.9		4.8	9.6	
	-----			-----		-----
	1,156	100.0		100.0		100.0
			Users of TCM with wild animal parts		Users of TCM without wild animal parts	
			Percent (Base=82)		Percent (Base=235)	
Strongly agree		9.7 )			9.2 )	
Agree		68.5 )	78.2		75.0 )	84.2
Neutral/noncommittal		14.2			7.1	
Disagree		5.1 )			3.5 )	
Strongly disagree		- )	5.1		- )	3.5
Don't know/hard to say		2.5			5.2	
		-----			-----	
		100.0			100.0	

Table 5.41: Comparison of attitude concerning wildlife extinction between TCM users and non-TCM users by Question 23 (*Humans will be adversely affected if wild animals gradually become extinct.*)

	All respondents		TCM users		Non-TCM users	
	Frequency	Percent		Percent (Base=403)		Percent (Base=746)
Strongly agree	49	4.3 )		6.4 )		3.1 )
Agree	732	63.2 )	67.5	65.2 )	71.6	62.4 ) 65.5
Neutral/noncommittal	106	9.1		7.2		9.9
Disagree	144	12.4 )		11.3 )		13.1 )
Strongly disagree	4	.3 )	12.7	.2 )	11.5	.4 ) 13.5
Don't know/hard to say	122	10.6		9.6		11.2
	-----			-----		-----
	1,157	100.0		100.0		100.0
			Users of TCM with wild animal parts		Users of TCM without wild animal parts	
			Percent (Base=82)		Percent (Base=235)	
Strongly agree		4.7 )		7.9 )		
Agree		65.7 )	70.4	68.1 )	76.0	
Neutral/noncommittal		10.8		4.8		
Disagree		10.1 )		10.6 )		
Strongly disagree		- )	10.1	- )	10.6	
Don't know/hard to say		8.7		8.6		
		-----		-----		
		100.0		100.0		

Table 5.42: Comparison of attitude concerning humans' impact on wildlife between TCM users and non-TCM users by Question 24 (*My use of wild animals as food or medicine will pose a threat to the ecology.*)

	All respondents		TCM users		Non-TCM users	
	Frequency	Percent	Percent (Base=403)		Percent (Base=746)	
Strongly agree	62	5.4 )	6.5 )		4.8 )	
Agree	735	63.6 )	69.0	65.8 )	72.3	62.4 ) 67.2
Neutral/noncommittal	99	8.6		9.8		7.9
Disagree	129	11.1 )		7.5 )		13.1 )
Strongly disagree	6	.5 )	11.6	.5 )	8.0	.5 ) 13.6
Don't know/hard to say	125	10.8		9.9		11.3
	-----	-----	-----	-----	-----	-----
	1,157	100.0		100.0		100.0
			Users of TCM with wild animal parts		Users of TCM without wild animal parts	
			Percent (Base=82)		Percent (Base=235)	
Strongly agree		6.1 )		6.4 )		
Agree		58.0 )	64.1	71.8 )	78.2	
Neutral/noncommittal		12.6		6.2		
Disagree		10.1 )		5.9 )		
Strongly disagree		1.3 )	11.4	- )	5.9	
Don't know/hard to say		11.9		9.7		
		-----		-----		
		100.0		100.0		

Forty-one per cent of all respondents agreed that food and medicine made from wild animals have more of a psychological than a physical effect, while 27% disagreed, and the remaining 33% did not express an opinion. Although the support level among TCM users was almost the same as that for non-users, there were more TCM users in disagreement with this statement than non-TCM users. Among those using TCM with wild animal parts, those who disagreed outnumbered those who agreed by 2 to 1. The situation was almost reversed among users of TCM without wild animal parts as ingredients, of whom 48% agreed and 24% disagreed.

Table 5.43: Comparison of attitude concerning effect of TCM containing wild animal parts between TCM users and non-TCM users by Question 25 (*Food and medicine made from wild animal parts have more of a psychological than a real effect.*)

	All Respondents		TCM users		Non-TCM users	
	Frequency	Percent	Percent (Base=400)	Percent (Base=746)	Percent (Base=746)	Percent (Base=746)
Strongly agree	34	3.0 )	4.3 )	2.3 )		
Agree	437	37.9 )	40.9 )	35.9 )	40.2 )	39.0 )
Neutral/noncommittal	161	14.0 )		14.1 )		13.9 )
Disagree	284	24.6 )		29.4 )		22.0 )
Strongly disagree	21	1.9 )	26.5 )	3.5 )	32.9 )	.9 )
Don't know/hard to say	217	18.8 )		12.8 )		21.9 )
	1,155	100.0	100.0	100.0	100.0	100.0
			Users of TCM with wild animal parts	Users of TCM without wild animal parts		
			Percent (Base=81)	Percent (Base=234)		
Strongly agree		1.1 )		4.8 )		
Agree		24.4 )	25.5	42.9 )	47.7	
Neutral/noncommittal		8.4 )		14.2 )		
Disagree		48.0 )		21.7 )		
Strongly disagree		6.4 )	54.4	2.2 )	23.9	
Don't know/hard to say		11.7 )		14.1 )		
		100.0		100.0		

Table 5.44 summarises the findings in relation to general attitudes toward wildlife. Among the four attributes tested, and across all respondent groups, it was found that the statement "human beings should give up some TCM in order to save wild species from extinction" (Q22) had the strongest support. While 77% of all respondents agreed with that proposal, only 6% did not. TCM users, especially those who did not use medicines containing wild animal parts, were very supportive of the idea. To conclude, TCM users were found to be more concerned with the extinction of wild animals than non-users.

Table 5.44: A summary table for Question 21 to Question 25 (percentage agreeing to given statement)

	Users of TCM w. w.a.p. (N=82)	Users of TCM w/o w.a.p. (N=235)	TCM users (N=403)	Non-TCM users (N=746)	All respondents (N=1157)
Q22 "stop using some TCM"	78.2	84.2	81.4	73.6	76.5
Q23 "humans will be affected"	70.4	76.0	71.6	65.5	67.5
Q24 "use TCM threatens ecology"	64.1	78.2	72.3	67.2	69.0
Q25 "effect is psychological"	25.5	47.7	40.2	41.3	40.9

Note: w.w.a.p.= with wild animal part; w/o w.a.p.= without wild animal part.



## 5.5 Consumption of Exotic Animals and Tonic Food

Among the 1,157 respondents interviewed in this survey, 33% had consumed exotic animals<sup>3</sup>, while 66% said they had never done so (Q26). For those who had eaten such animals, 27% were more or less regular consumers, amounting to 9% of the total population. "Snake" was the most popular animal, cited by 51% of such respondents (Q28). Civet cat was the second most frequently consumed item (30%), followed by Pangolin (17%). These three were by far the most popular exotic animals for consumption. Barking Deer, Wild Pig, turtle and deer were other popular wild animals, along with dog.

For those who had consumed exotic animals, most (73%) had done so on an irregular basis. This survey corresponds to earlier findings (Anon., 1989; 1993b) that snake (51%) is the most frequently consumed exotic animal, followed by civet cat (30%) and Pangolin (17%).

Contrary to previous findings (Anon., 1993b), which showed Hong Kong to be the place where most respondents had eaten exotic animals, this survey showed China (47%), followed by Hong Kong (45%), as the place where Hong Kong people most often consume exotic animals. Within China, Guangzhou and Shenzhen (both 17%) were the most popular places where Hong Kong people consumed exotic animals.

Table 5.45: Responses to Question 26.

Q26 Have you ever eaten exotic animals?		
	Frequency	Percent
Yes	384	33.2
No	763	66.0
Don't know/forgotten	9	.8
	-----	-----
Total	1,157	100.0

Although this survey is not directly comparable to Anon. (1989) and Anon. (1993b), due mainly to different sampling techniques and methods of inquiry used, an attempt was made to explore possible correlation. Based on Anon. (1989), Hills (1989) suggested that older people were more likely than younger people to have eaten some selected animals. While the mean age of Hong Kong's population rose over a 10-year period from 28 in 1986 to 34 in 1996 (Anon., 1996a), only about 33% of the respondents had eaten exotic animals, as compared to previous findings in 1989 and 1993 of 70% and 48%, respectively (Anon., 1989; Anon., 1993b).

This survey also found that people in the age group of 30 to 49 were more likely to have eaten exotic animals than were people of other age groups. The likelihood for respondents aged 50 or above to have consumed exotic animals declined. This is perhaps due to the fact that respondents aged 50 or above were born before or during World War II and have experienced wartime difficulties and postwar economic hardships. Exotic animals, understandably, did not constitute a part of their normal diet. Therefore, with the elimination of respondents aged 50 or above, the findings support the notion that the older the person, the more likely he or she would have consumed exotic animals.

<sup>3</sup> Refer to Section 3.2 for definitions.

Table 5.46: Cross-tabulation of Question 26 by Age Group (*Have you ever eaten exotic animals?*)

	Count Col Pct	AGEGP					Row
		18-20	21-29	30-39	40-49	50-59	
Q26							
Yes	38 28.9	71 32.8	130 38.9	76 38.6	30 31.8	33 23.4	378 33.9
No	90 67.9	145 67.2	204 60.8	120 60.9	63 67.0	107 75.8	728 65.3
Don't know/ forgotten	4 3.2		1 .3	1 .5	1 1.2	1 .8	8 .7
Column Total	132 11.8	216 19.4	335 30.0	197 17.7	94 8.5	141 12.6	1,115 100.0

This survey supports the findings of Anon. (1989) and Anon. (1993b) that more men (41%) tend to have consumed exotic animals than women (26%).

Table 5.47: Cross-tabulation of Question 26 by Gender. (*Have you ever eaten exotic animals?*)

	Count Col Pct	GENDER		Row
		Male	Female	
Q26				
Yes	235 40.6	149 25.8		384 33.2
No	338 58.4	426 73.6		763 66.0
Don't know/ forgotten	5 .9	4 .6		9 .8
Column Total	579 50.0	579 50.0		1,157 100.0

In addition, people with a higher level of education were more likely to have consumed exotic animals and tonics containing ingredients derived from wildlife than were those less educated. It could be that the former may have higher-paid jobs which would enable them to travel more and to consume more expensive cuisine.

Table 5.48: Cross-tabulation of Question 26 by Education (*Have you ever eaten exotic animals?*)

Q26	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Yes	61 24.1	239 34.9	84 40.0	383 33.4	
No	189 75.1	442 64.5	122 58.6	754 65.8	
Don't know/ forgotten	2 .8	4 .6	3 1.4	9 .8	
Column Total	252 22.0	685 59.8	209 18.2	1,146 100.0	

Table 5.49: Responses to Question 27.

Q27 (For those who answered "Yes" in Q26) How often?	Frequency	Percent	Accum.
Once or more than once a day	1	.3	.3
Once or more than once a month	4	1.1	1.4
Once or more than once every two months	1	.2	1.6
Once or more than once a quarter	7	1.9	3.5
Once every winter	34	8.8	12.3
Twice every winter	42	10.9	23.2
Several times a year	14	3.5	26.7
Not regular/hard to say	282	73.3	100.0
	-----	-----	
	384	100.0	

Table 5.50: Responses to Question 28.

Q28 (For those who answered "yes" in V26, base=384) What do you usually eat?  
(Multiple response, maximum of five choices allowed)

	Frequency	Percent per Responses (Base=535)	Percent per Respondents (Base=384)
Snake	194	36.3	50.5
Civet cat*	115	21.5	29.9
Pangolin ( <i>Manis pentadactyla</i> )	66	12.3	17.2
Barking deer ( <i>Muntiacus reevesi</i> )	33	6.2	8.6
Dog ( <i>Canis familiaris</i> )	15	2.8	3.9
Wild pig ( <i>Sus scrofa</i> )	14	2.7	3.6
Turtle	12	2.3	3.1
Deer	11	2.1	2.9
Giant Salamander ( <i>Megalobatrachus davidianus</i> )	6	1.2	1.6
Cat	5	1.0	1.3
Rabbit ( <i>Oryctolagus cuniculus</i> )	4	.8	1.0
Birds of prey	4	.7	1.0
Monkey ( <i>Macaca sp.</i> )	3	.6	.8
Porcupine ( <i>Hystrix hodgsoni</i> )	2	.4	.5
Tiger ( <i>Panthera tigris</i> )	2	.4	.5
Leopard cat ( <i>Felis bangalensis</i> )	1	.2	.3
Peacock**	1	.2	.3
Leopard ( <i>Panthera pardus</i> )	1	.2	.3
Others	18	3.5	4.7
No regular choice	6	1.2	1.6
Don't know/hard to say	19	3.5	4.9
	-----	-----	
	535	100.0	

\* Civet cat refers to *Paguma larvata*, *Viverricula indica*, *Viverra zibetha*  
\*\* Peacock refers to *Pavo cristatus*, *Pavo muticus*

Table 5.51: Responses to Question 29.

Q29 Where do you usually go to eat these animals?

	Frequency	Percent
Hong Kong	171	44.5
Macau	2	.5
Guangzhou	66	17.2 )
Shenzhen	64	16.8 )
Zhongshan	10	2.6 )
Dongguan	4	1.0 )
Shekou	3	.8 )
Shantou	3	.8 )
Zhuhai	2	.6 )
Foshan	2	.6 )
Hainan Island	1	.3 )
Other places in China	26	6.8 ) 47.3
Other Asian countries	6	1.6
Other countries	1	.3
Don't know/hard to say	22	5.8
	-----	-----
	384	100.0

Regarding the consumption of tonics containing wild animal parts, 52% of all respondents said they had taken such tonics at least once, while 48% said they had never taken them (Q30). For those who had taken such tonics, 23% were more or less regular consumers (12% of the total sample) (Q31). Among the tonics containing wild animal derivatives as ingredients, those containing edible swiftlet nest were the most popular among respondents (87%) (Q30).

Table 5.52: Responses to Question 30.

Q30 Have you ever taken tonics containing wild animal derivatives as ingredients, such as edible swiftlet nest, or "Tiger-bone wine"?		
	Frequency	Percent
Yes	598	51.7
No	551	47.7
Don't know/forgotten	7	.6
	-----	-----
	1,156	100.0

Table 5.53: Responses to Question 31.

Q31 (For those who answered "Yes" in Q30) How often?			
	Frequency	Percent	Accum.
Once or more than once a day	2	.3	.3
Once or more than once a week	13	2.2	2.5
Once or more than once a month	36	6.0	8.5
Once or more than once a quarter	37	6.1	14.6
Once or more than once a year	50	8.4	23.0
Once or more than once every five years	28	4.6	27.6
Not regular/hard to say	432	72.3	100.0
	-----	-----	
	598	100.0	

Table 5.54: Responses to Question 32.

Q32 (For those who answered "Yes" in Q30, base=598) What do you usually eat?		
	Frequency	Percent
Edible swiftlet nest ( <i>Collocalia spp.</i> )	506	87.3
Ginseng/American ginseng	20	3.4
Frog eggs	15	2.6
Deer antler	8	1.4
Snake	2	.3
Others	11	1.9
No regular choice	15	2.6
Don't know/hard to say	3	.5
	-----	-----
	580	100.0

This survey also found that female and younger respondents were more likely than male or older respondents to have consumed tonics that contain wild animal ingredients. Tonic food is generally believed to have an effect on maintaining good health or physical appearance. This may be why younger women in Hong Kong consume tonic foods.

Table 5.55: Cross-tabulation of Question 30 by Gender. (Have you ever taken tonics containing wild animal derivatives as ingredients, such as edible swiftlet nest, or "Tiger-bone wine"?)

	Count Col Pct	GENDER		Row
		Male	Female	
Q30				
Yes		262 45.5	340 58.8	602 52.1
No		312 54.0	238 41.1	549 47.5
Don't know/ forgotten		3 .6	1 .2	4 .4
Column Total		577 50.0	578 50.0	1,156 100.0

Table 5.56: Cross-tabulation of Question 30 by Age Group. (Have you ever taken tonics containing wild animal derivatives as ingredients, such as edible swiftlet nest, or "Tiger-bone wine"?)

	Count Col Pct	AGE GP						Row
		18-20	21-29	30-39	40-49	50-59	60 or above	
Q30								
Yes		80 60.4	138 63.7	187 55.9	98 49.6	43 45.7	38 27.0	584 52.3
No		51 38.9	77 35.8	146 43.5	99 50.4	51 54.3	103 73.0	527 47.3
Don't know/ forgotten		1 .7	1 .5	2 .7				4 .4
Column Total		132 11.8	216 19.4	335 30.0	197 17.7	94 8.5	141 12.6	1,115 100.0

Table 5.57: Cross-tabulation of Question 30 by Education (*Have you ever taken tonics containing wild animal derivatives as ingredients, such as edible swiftlet nest, or "Tiger-bone wine"?*)

Q30	Count Col Pct	EDU			Row
		Primary and below	Secondary	Post- secondary	
Yes	87 34.8	399 58.2	115 54.9	601 52.4	
No	164 65.2	285 41.5	92 44.1	540 47.2	
Don't know/ forgotten		2 .3	2 1.0	4 .4	
Column Total		251 21.9	685 59.8	209 18.3	1,145 100.0

## 6. CONCLUSIONS

### 6.1 Use of TCM in Hong Kong

This survey found that about 6.8% of Hong Kong's adult population uses TCM regularly and that users are more likely to be women than men. While about 35% of TCM users seek advice from TCM practitioners and TCM shop assistants, over 50% of TCM users would not try to ascertain the ingredients of TCM prescribed to them.

### 6.2 Uses of TCM With Ingredients From Wild Animals

Among TCM users in Hong Kong, three-fifths (59%) claimed they would refrain from using TCM purporting to contain parts of wild animals. Perceived need and efficacy collectively the major reasons why TCM users would use TCM containing parts of wild animals. People with lower educational levels were found to be more willing to pay higher prices for TCM containing parts of animals taken from the wild, as opposed to those bred in captivity. Fourteen percent of TCM users would continue to consume TCM containing endangered animals that are protected by law, while another 37% might do so "depending on the situation". Among this 37%, two-fifths (41%) would do so if it were perceived to be necessary.

### 6.3 Uses of Rhino Horn and Tiger Bone as TCM

Seven percent of the TCM users (or 2% of the total sample) had used TCM claiming to contain rhino horn, while another 4% of TCM users (or 1% of the total sample) had used TCM claiming to contain Tiger bone.

This survey confirms that there is probably a residual demand among the adult population of Hong Kong for TCM containing rhino horn and/or Tiger bone, with males and older TCM users being more likely to use such products. Sixty-five percent of "rhino horn users" and 69% of "Tiger bone users" said they would stop using medicines containing these ingredients if informed that such use were prohibited by law. Twenty-three percent of "rhino horn users" and 19% of "Tiger bone users", however, stated they would continue using these products even if they know it were against the law.

### 6.4 Attitudes Towards Wildlife Conservation

About three-fifths (59%) of the adult population expressed concern about endangered species. More than three-fourths (77%) of these respondents agreed to give up certain TCM if that would help save wildlife from extinction. Nearly 70% of the adult population expressed the belief that humans would be adversely affected if wild animals were to become extinct. The majority of people found to be supportive of wildlife conservation were younger and better educated.

Users of TCM were generally more supportive of wildlife conservation than were non-users. Among TCM users, those who do not use TCM containing wild animal parts expressed more concern for wildlife conservation than did those who use TCM containing wild animal parts. Those people who used TCM containing wild animal parts in general did not feel that their use of wildlife as medicine has an impact on the ecology.

Three-quarters (74%) of TCM users support the use of law to prohibit the use of endangered animals as TCM ingredients. Only 14% of the TCM users would definitely continue to use TCM containing ingredients derived from animals protected by law despite being informed of legal



prohibitions. Sixty-five percent of “rhino horn users” and 67% of “Tiger bone users” would stop such use if they were informed of such prohibitions.

### **6.5 Consumers of Wildlife as Food and Tonic**

One-third (33%) of the adult population had consumed exotic animals. Males and older people were more likely to have eaten exotic animals. Snake is the most popular exotic animal for consumption and China is the most popular place for eating exotic animals, followed closely by Hong Kong. More than half of the adult population had consumed tonics containing wild animal derivatives. Females and the younger generation (aged 18-29) were found to be the main users of these health tonics.

In summary, this survey found that a majority of Hong Kong Chinese, and especially those who use TCM, expressed concern about wildlife and wildlife conservation and would voice support if they were well informed of the relevant issues. However, the small number who said they would consume wildlife as medicine in spite of legal prohibitions pose a conservation concern and deserve further study. In addition, the number of TCM consumers who do not ascertain the ingredients of their medicines suggest that higher levels of consumers awareness of wildlife conservation may engender more responsible consumption.

## **7. RECOMMENDATIONS**

### **7.1 Influencing the Influential**

Since TCM practitioners and TCM shop assistants were cited by respondents as the most influential persons affecting their choice of TCM, and as more than half of TCM users do not attempt to learn the content of medicines prescribed to them, information regarding TCM and wildlife conservation should be provided, as a matter of priority, to TCM practitioners, shop assistants and students studying TCM. The fact that three-quarters of TCM users support legal provisions to regulate the use of TCM containing endangered animal parts should also be publicised within the TCM community.

Effective channels of communication will have to be explored to convey the issue of the relationship of TCM and wildlife conservation to the members of the TCM community. Sustainable use of medicinal wildlife species as natural resources and local legislation and regulatory measures implementing CITES should be incorporated in TCM courses in Hong Kong.

### **7.2 Influencing the End Users**

#### **7.2.1 Information Made Available to TCM Users**

While 37% of TCM users would, "depending on the situation", decide whether to use TCM containing endangered animal parts, only 14% of the TCM users would definitely continue to use TCM containing ingredients protected by law. In addition, 65% of "rhino horn users" and 67% of "Tiger bone users" would stop the consumption of TCM containing these ingredients if they were informed of legal prohibitions against such use. This suggests that if TCM users are knowledgeable about the issue, a considerable number of them will refrain from using these medicines. Information should therefore be made available to TCM users. Male and older TCM users who are more likely to consume rhino horn or Tiger bone should be the target group.

#### **7.2.2 Influencing the Undecided**

Up to 37% of TCM users would only decide whether to use TCM containing endangered animal parts when faced with the situation. This group of people have not yet made up their minds and can be positively influenced. Therefore, this group should be polled in order to give a better understanding of the decisive factors.

#### **7.2.3 Effective Communication Channels**

One means of communicating with consumers would be the placement of relevant educational materials in TCM shops. However, this method would only be effective if there is a high level of understanding and cooperation from members of the TCM community.

### **7.3 Substitutes and Alternatives**

Once again, as many as 37% of the TCM users would only decide whether to ask for TCM made from endangered animal parts when actually faced with the need. Among this 37%, one-quarter would knowingly take TCM containing ingredients derived from endangered animals protected by law if it were prescribed by TCM practitioners. Therefore, alternatives and substitutes which have proven effective should be explored and promoted among "undecided users" and TCM practitioners.

Only 14% of TCM users were willing to pay more for TCM made from animals caught in the wild. A majority of the TCM users (64%) said they would not do so. Where possible, consideration should be given to further explore options for captive breeding and propagation of medicinal species, in order to relieve commercial pressure on the species in the wild.

### **7.4 Regulation of the TCM Industry in Hong Kong**

As previously mentioned in this report, the practice and use of TCM in Hong Kong is not regulated. The Preparatory Committee for Chinese Medicine (PCCM) is currently looking into the regulation of TCM in Hong Kong. This includes the establishment of a statutory TCM body and two subordinate committees, one to handle the practice of TCM, and the other to regulate the use of TCM. The proposed statutory TCM body should advocate the issue of sustainable use of medicinal wildlife species, which can be incorporated into a code of practices. Such a statutory body should also establish disciplinary mechanisms to self-regulate the use and trade in endangered species within the TCM community.

### **7.5 Change in Composition of Hong Kong Population**

Over the next ten years, the population of Hong Kong is projected to grow by nearly one million, with another 700,000 residents expected by the year 2016. The majority of the growth is expected to come from migration from the Chinese mainland. According to available figures, 40% of the population in China relies primarily on TCM (Anon., 1996b). TCM users in Hong Kong will inevitably increase as a result of those factors. Effective communication to immigrants and new users will be essential.

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## Annex 1: Demographic Profile of Respondents

Gender:		Frequency	Percent
	Male	579	50.0
	Female	579	50.0
		-----	-----
	Total:	1,157	100.0

Age Group:		Frequency	Percent
	18-20	132	11.8
	21-29	216	19.4
	30-39	335	30.0
	40-49	197	17.7
	50-59	94	8.5
	60 or above	141	12.6
		-----	-----
	Total:	1,115	100.0

Respondents Educated Outside Asia or Not:		Frequency	Percent
	Yes	81	7.0
	No	1,070	93.0
		-----	-----
		1,151	100.0

Education:		Frequency	Percent
	Primary and below	252	22.0
	Secondary	685	59.8
	Post-secondary	209	18.2
		-----	-----
	Total:	1,146	100.0

Housing Type:		Frequency	Percent
	Public housing	445	39.2
	Home Ownership Scheme	170	15.0
	Private housing	469	41.3
	Village	25	2.2
	Others	26	2.3
		-----	-----
	Total:	1,135	100.0

Occupation:		Frequency	Percent
	Professional & semi-professional	197	17.4
	Clerical & service workers	270	23.8
	Production workers	166	14.7
	Students	117	10.4
	Housewives	198	17.5
	Others	183	16.2
		-----	-----
		1,131	100.0

Attitudes of HK Chinese Towards Wildlife Conservation

Average Monthly Income:	Frequency	Percent
\$1 to \$20,000	423	80.0
\$20,001 to \$30,000	34	6.4
\$30,001 or above	32	6.1
Not regular	39	7.5
	-----	-----
	528	100.0

Remark:

For economically active respondents:	Mean	=	\$15,380
	Median	=	\$11,000
	Mode	=	\$10,000
	Std. err.	=	586 (n=489)

## Annex 2: Questionnaire (Translated from Chinese)

### Part 1: Introduction

"Greeting, I'm calling from the Social Sciences Research Centre of the University of Hong Kong. We're conducting a survey with TRAFFIC East Asia. The purpose of such a survey is to collect information about the public opinions on traditional Chinese medicine and wild animal. It'll take you only a few minutes and all the information provided to us will be kept in confidence."

Q1. Telephone no.

Q2. Interviewer no.

- Q3. Which district do you live in?
- |                              |                     |
|------------------------------|---------------------|
| ▪ Wanchai                    | ▪ Sai Kung          |
| ▪ Eastern District           | ▪ Sha Tin           |
| ▪ Central & Western District | ▪ Islands           |
| ▪ Southern District          | ▪ Tsuen Wan         |
| ▪ Kwun Tong                  | ▪ Kwai Tsing        |
| ▪ Kowloon City               | ▪ Tuen Mun          |
| ▪ Wong Tai Sin               | ▪ Yuen Long         |
| ▪ Mongkok                    | ▪ North District    |
| ▪ Sham Shui Po               | ▪ Tai Po            |
| ▪ Yau Tsim                   | ▪ Refused to answer |

Q4 Household size.

### Part 2: Select and identify respondents

Q5 Is there any person aged 18 or above in your home? For the purpose of random sampling, please ask the one with next birthday to answer this questionnaire.

- Yes
- No (Skip to end)
- depreciation

### Part 3: Core questions

Q6. Have you ever taken or used TCM externally, such as elk deer horn, musk, etc.? (If yes, ask how often?)

- |   |                                   |
|---|-----------------------------------|
| ▪ Once or more than once a day            | ▪ Yes but not regular/hard to say |
| ▪ Once or more than once a week           | ▪ Never (skip to Q21)             |
| ▪ Once or more than once a month          | ▪ Don't know what TCM is          |
| ▪ Once or more than once a quarter        | ▪ Not sure                        |
| ▪ Once or more than once a year           | ▪ Refused to answer               |
| ▪ Once or more than once every five years |                                   |

Q7. Would you take TCM that contains wild animal parts as ingredients?

- Yes
- No (Skip to Q9)
- Depends (Skip to Q10)
- Don't know/hard to say (Skip to Q10)
- Refused to answer (Skip to Q10)

Q8. Why would you take them? (Multiple response); (Skip to Q10)

- Prescribed by doctor
- Recommended by family members/friends
- I use TCM only
- I don't want to change my habit
- Because I am sick
- My illness requires such medicine
- TCM is more effective than Western medicine
- TCM is cheaper
- TCM is the Chinese tradition
- TCM do not have side effects
- Other reasons
- Don't know/hard to say
- Refused to answer

Q9. Why would you not take them? (Multiple response)

- TCM practitioner says not to
- Prohibited by law
- Wildlife would become extinct
- I am a vegetarian
- Afraid of bacteria
- Others
- Don't know/hard to say
- Refused to answer

Q10. From whom or which source do you take advice about the use of TCM?

- Parents
- Children
- Siblings
- Senior relatives
- Relatives
- Neighbours
- Colleagues
- Friends
- Doctors
- TCM practitioners
- TCM shop assistant
- Books
- TV, radio
- Newspaper, magazine
- Others
- No one particular source
- Don't know/hard to say
- Refused to answer

Q11. Would you try to learn the content of TCM before using it?

- Yes
- Sometimes
- No
- Don't know/hard to say
- Refused to answer

(If Q7=No, skip to Q14)

Q12. What would you do if the TCM you use were found to contain ingredients derived from animals protected by law?  
(Read out the first 4 options)

- Keep on using as usual
- Use less
- Stop using immediately (Skip to Q14)
- Depends on the situation
- Others
- Don't know/hard to say
- Refused to answer

Q13. Under what circumstances would you use such TCM? (Multiple response; Read out the first 6 options)

- Prescribed by TCM practitioners
- Recommended by family members/friends
- In case of extreme illness
- When Western medicine failed
- If the price were reasonable
- If I had the opportunity
- Others
- Under no circumstance
- Hard to say
- Refused to answer

Q14. Do you agree that TCM can sometimes treat sickness that cannot be treated by Western medicine?

- Agree
- Disagree
- Don't know/hard to say
- Refused to answer

Q15. Would you pay more for TCM containing ingredients derived from animals caught in the wild than that containing parts of animals bred in captivity?

- Yes
- No
- Not sure
- Don't know/hard to say
- Refused to answer

Q16. Do you support laws that prohibit the use of endangered species as TCM?

- Yes
- Noncommittal
- No
- Don't know/hard to say
- Refused to answer

Q17. Have you ever taken or used TCM externally containing rhino horns?

- Yes
- No (Skip to Q19)
- Don't know/forgotten (Skip to Q19)
- Refused to answer (Skip to Q19)

Q18. If the sale of rhino horns were banned by law, would you continue to use those medicines?

- Yes
- No
- Don't know/hard to say
- Refused to answer

Q19. Have you ever taken or used TCM externally containing Tiger bones?

- Yes
- No (Skip to Q21)
- Don't know/forgotten (Skip to Q21)
- Refused to answer (Skip to Q21)

Q20. If the sale of Tiger bones were banned by law, would you continue to use those medicines?

- Yes
- No
- Don't know/hard to say
- Refused to answer

Q21. Are you concerned about the issue of endangered species?

- Very concerned
- Quite concerned
- Not very concerned
- Not concerned at all
- Don't know/hard to say
- Refused to answer

Please express your level of agreement or disagreement to the following statements.

Q22. Humans should stop using some TCM in order to help save endangered animals.

- Strongly agree
- Agree
- Neutral/noncommittal
- Disagree
- Strongly disagree
- Don't know/hard to say
- Refused to answer

Q23. Humans will be adversely affected if wild animals gradually become extinct.

- Strongly agree
- Agree
- Neutral/noncommittal
- Disagree
- Strongly disagree
- Don't know/hard to say
- Refused to answer

Q24. My use of wild animals as food or medicine will pose a threat to the ecology.

- Strongly agree
- Agree
- Neutral/noncommittal
- Disagree
- Strongly disagree
- Don't know/hard to say
- Refused to answer

Q25. Food and medicine made from wild animals have more of a psychological than a real effect.

- Strongly agree
- Agree
- Neutral/noncommittal
- Disagree
- Strongly disagree
- Don't know/hard to say
- Refused to answer

Q26. Have you ever eaten exotic animals?

- Yes
- No (Skip to Q30)
- Don't know/forgotten (Skip to Q30)
- Refused to answer (Skip to Q30)

Q27. How often?

- Once or more than once a day
- Once or more than once a week
- Once or more than once a month
- Once or more than once every two months
- Once or more than once a quarter
- Once every winter
- Twice every winter
- Several times a year
- Not regular/hard to say
- Refused to answer

Q28. What do you usually eat? (Multiple response, maximum of five choices allowed)

- Snake
- Turtle
- Dog
- Cat
- Civet cat
- Leopard cat
- Rabbit
- Giant salamander
- Eel
- Crocodile
- Barking deer
- Porcupine
- Pangolin
- Monkey
- Peacock
- Birds of prey
- Bear
- Tiger
- Deer
- Leopard
- Wild pig
- Others
- Not regular
- Don't know/hard to say
- Refused to answer

Q29. Where do you usually go to eat these animals?

- Hong Kong
- Macau
- Guangzhou, Guangdong
- Zhongshan, Guangdong
- Shenzhen, Guangdong
- Shekou, Guangdong
- Zhuhai, Guangdong
- Shantou, Guangdong
- Dongguan, Guangdong
- Foshan, Guangdong
- Hainan Island
- Other places in China
- Other Asian countries
- Other countries
- Don't know/hard to say
- Refused to answer

Q30. Have you ever taken tonics containing wild animal derivatives as ingredients, such as edible swiftlet nest, or "Tiger-bone wine"?

- Yes
- No (Skip to Q33)
- Don't know/forgotten (Skip to Q33)
- Refused to answer (Skip to Q33)

Q31. How often?

- Once or more than once a day
- Once or more than once a week
- Once or more than once a month
- Once or more than once a quarter
- Once or more than once a year
- Once or more than once every five years
- Not regular/hard to say
- Never
- Don't know what is tonic
- Refused to answer

Q32. What do you usually eat?

- Edible swiftlet nest
- Ginseng/American ginseng
- Frog eggs
- Deer antler
- Others
- Not regular
- Don't know/hard to say
- Refused to answer

#### Part 4: Demographic data

Q33. Gender

- Male
- Female

Q34. Age (99=Refused to answer)

Q35. Have you ever received education outside Asia?

- Yes
- No
- Refused to answer

Q36. Education level

- Primary or below
- Secondary
- Matriculation
- Tertiary: Non-degree
- Tertiary: Degree
- Refused to answer

Q37 Housing

- Public housing
- Home Owner Scheme
- Private housing
- Village
- Others
- Refused to answer

Q38 Occupation

- Managers & administrators
- Professionals
- Associate professionals
- Clerks
- Service & shop sales workers
- Skilled agricultural or fishery workers
- Craft & related workers
- Plant & machine operators & assemblers
- Elementary occupations
- Students
- Housewives
- Not classifiable
- Others (include unemployed; retired & other non-working people)
- Refused to answer

Q39. Average personal monthly income (0=No income; 99 998=Not regular; 99 999=Refused to answer)



**Annex 3: Questionnaire (in Chinese)**

## **Annex 4: Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**

### **What is CITES?**

The international wildlife trade, worth billions of dollars annually, has caused massive declines in the numbers of many species of animals and plants. The scale of over-exploitation for trade aroused such concern for the survival of species that an international treaty was drawn up in 1973 to protect wildlife against such over-exploitation and to prevent international trade from threatening species with extinction. CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, entered into force on 1 July 1975 and now has a membership of 143 countries. These countries act by banning commercial international trade in an agreed list of endangered species and by regulating and monitoring trade in others that might become endangered.

### **Why CITES is Needed?**

There are over 13,000 known species of mammals and birds, as well as thousands of reptiles, amphibians and fish, millions of invertebrates and some 25,000 flowering plants. Extinction is a natural feature of the evolution of life on Earth. But in recent times humans have been responsible for the loss of most of the animals and plants that have disappeared. Many species are declining in number because of loss of habitat and increased exploitation as human populations grow. Trade has now also become a major factor in the decline as improvement in transport facilities has made it possible to ship live animals and plants and their products anywhere in the world. The wildlife trade is a highly lucrative business and involves a wide variety of species, both as live specimens and as products. Millions of animals and plants are traded each year to supply the demand for medicines, food, pets and ornamental plants. Furskins, leather and timber, and articles manufactured from these materials are all traded in large quantities.

### **How CITES operates?**

CITES has established a world-wide system of controls on international trade in threatened wildlife and products derived from threatened wildlife by stipulating that government permits are required for such trade. Protection is provided for species in the following categories:

- Appendix I: Includes all species threatened with extinction which are or may be affected by trade.
- Appendix II: a) Includes all species which although not necessarily currently threatened with extinction may become so unless trade is subject to strict regulation; and  
b) Other species which must be subject to regulation in order that trade in certain specimens of species referred to in sub-paragraph (a) above may be brought under effective control, i.e, species similar in appearance.
- Appendix III: All species which any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation. The cooperation of other Parties, is therefore, needed.

*The above information is downloaded from the web site of the CITES Secretariat which is copyrighted.*

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