IDENTIFYING AND UNDERSTANDING CONSUMERS OF WILD ANIMAL PRODUCTS IN HANOI, VIETNAM: IMPLICATIONS FOR CONSERVATION MANAGEMENT

by

Rebecca Catherine Drury

Thesis submitted in fulfillment of the requirements for
the degree of Doctor of Philosophy

University College London

February 2009

I, Rebecca Catherine Drury, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

……..

Abstract

Vietnam is an established thoroughfare for illegal wildlife trade, and rapidly growing urban prosperity is increasing domestic demand for wild animal products. Consumer-targeted interventions, including awareness campaigns and social marketing, and supply-side approaches such as wildlife farming to reduce demand for wild animals, are increasingly being used alongside regulatory measures to curb illegal trade. These approaches are based on limited information about wild animal consumers and consumption behaviour in urban Vietnam. In particular, little is known about the characteristics of consumers, the context of consumption, the values associated with wild animal products, the ability of farmed wild substitutes to satisfy consumer demand and current awareness levels and attitudes regarding wild animals. Focusing on the central Hanoi population, this thesis investigates all of these issues using a structured questionnaire survey (n=915) and a series of semi-structured interviews (n=77).

There is considerable demand for wild animal products, and for wild meat in particular, amongst the population of central Hanoi. Wild meat consumers tend to be high-income men of all ages working in high-status positions as businessmen, finance professionals and government officials. Consumption of medicinal products is positively related to age and education. Wild meat is a prestige food used to demonstrate wealth and status and there are considerable social pressures to consume it. Preferences for wild-caught products show farmed substitutes will not satisfy demand for wild products; widespread farming may actually increase overall demand for wild animal products by introducing new consumers and encouraging existing consumers to place greater emphasis on the origin of products. Wildlife-related awareness does not reduce consumption behaviour and the population surveyed displayed a largely utilitarian attitude towards wild animals. The thesis concludes with recommendations to reduce wildlife decline driven by overexploitation for trade in Vietnam.

Acknowledgements
I would like to thank the Economic and Social Research Council for funding this research, and all those who supported me through the last four long years.

In Vietnam, many thanks to Scott Roberton and ENV for helping me to heave the project off the ground, and to Hien for her enthusiasm during the pilot study. I am hugely grateful to Luong and Nga for cheerfully acquainting themselves with every third household across Hanoi come sweltering heat or tropical storm, and remaining admirably upbeat whatever their reception; many thanks also to Phuong for cheerfully stepping in when she was most needed. I am indebted to Chien without whose patience, determination and skills of persuasion I could never have had an audience with any wild meat consumers. I would especially like to thank Le, not only for her linguistic brilliance and perseverance in finding interviewees, but also for her ongoing friendship and for teaching me so much about Vietnam. I am also grateful to all those who took the time to participate in the research, and for the hospitality received along the way.

My supervisors Katherine Homewood, Sara Randall and Caroline Garaway have answered countless questions, advised and encouraged, and helped me get to grips with social science, and for this I am grateful. I would particularly like to thank Sara for taking me under her wing in the last few months and for her honest approach, both the thesis and I are much better for it.

I would also like to extend a huge thank you to my family for allowing me such freedom, and particularly to my Mother for being a constant source of support, friendship and chocolate. I am also extremely appreciative of all the friends and family who emailed, wrote and sent parcels whilst I was in the field. But I owe the greatest thanks to Paul who stuck by my side and encouraged me every single step of the way.

Thank you.

Contents

List of Boxes

List of Figures

List of Tables

List of Abbreviations

AFP	Agence France-Presse
ASEAN	Association of Southeast Asian Nations
BSE	Bovine Spongiform Encephalopathy
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CWCA	China Wildlife Conservation Association
DRV	Democratic Republic of Vietnam
ENV	Environment for Nature, Vietnam
FFI	Fauna and Flora International
FPD	Forest Protection Department
HIV	Human Immunodeficiency Virus
H5N1	Influenza A Virus Subtype H5N1
IFAW	International Fund for Animal Welfare
Int.	Interviewer
MARD	Ministry of Agriculture and Rural Development
NGO	Non-Governmental Organisation
Pers. obs.	Personal observation
Pers. comm.	Personal communication
RA	Research Assistant
RU	Response Unit
SARS	Severe Acute Respiratory Syndrome
SFNC	Social Forestry and Nature Conservation in Nghe An Province
SSI	Semi-Structured Interview
TCM	Traditional Chinese Medicine
UDCA	Ursodeoxycholic Acid
UN	United Nations
UNEP	United Nations Environment Program
VNA	Vietnamese News Agency
VND	Vietnamese Dong
WCS	Wildlife Conservation Society
WHO	World Health Organisation
WPAC	Wildlife Protection Association of China
WTO	World Trade Organisation
WWF	World Wildlife Fund

1. Introduction: Managing The Trade in Wildlife

1.1. The Wildlife Trade

Wildlife trade is the "sale or exchange of physical products produced by and/or derived from wild species" (Roe et al. 2002: 4). The trade involves timber, fish, live animals and plants, wild meat and other food products such as snake wine, skins and furs, medicinal derivatives, ornamental items, souvenirs and curios; this thesis focuses on wild animals and the products derived from them.

Worldwide, the majority of wildlife trade is legal and is an important source of income to some of the poorest people (Broad et al. 2003; Lin 2005). However, a significant proportion of wildlife trade is illegal and contributes directly to the depletion of valuable natural resources through overexploitation and the introduction of commercially valuable species beyond their natural ranges (Broad et al. 2003). While it is impossible to estimate the value and volume of the illegal trade in wild animals and plants accurately, global estimates include USD8billion (UNEP 1998), USD15billion (Roe et al. 2002) and USD20billion (Interpol 2008).

Today a significant proportion of high volume illegal trade in high-value wild species involves organised crime networks linked to arms, drugs and human trafficking (Vince 2002; Lin 2005). Trade contravening CITES has been recognised by the G8, the United Nations, Interpol and the European Union as one of five major groupings of international environmental crime; and yet the wider societal costs of organised wildlife-related crime are often overlooked, typically resulting in low investment in enforcement activities, allowing organised crime to thrive (Lin 2005).

1.1.1. Vietnam and Trade in Southeast Asian Wildlife

Records of official wildlife trade between Vietnam and China go back to 200BC, and unofficial trade is even more ancient with accounts referring to trade in rhino horn and tortoise shell before 500BC (Simoons 1991; Li & Li 1998). Wildlife has also been a major source of foreign exchange for Cambodia since the 1st century (Martin & Phipps 1996 in World Bank, 2007). During the Sui Dynasty and up until the Ming Dynasty (AD 581-1644) overseas trade in wildlife was also prosperous

(Shen 1985 in Li & Li 1998) and Vietnamese kings are reported to have presented wild animal products and live wild animals to Chinese rulers (Nash 1997). Official documents show wildlife being traded from northern Laos to southern Chinese provinces from the mid-19th century (Duckworth et al. 1999; Nooren & Claridge 2000) while the explorer Garnier (1869-85) observed a thriving wildlife trade in Laos mediated by Chinese and Thai merchants, with rhino horn and peafowl feathers selling for high prices in China (Nash 1997).

However, wildlife trade is believed to have increased significantly during the 20th century, and to have grown particularly rapidly over the past twenty years in response to increased demand and rising market prices (Donovan 1998; Compton 2000; SFNC 2003; Anon 2004; World Bank 2007). Growing affluence in East Asia as a result of economic growth is thought to be the principal factor driving increasing demand for wild animals, while improved infrastructure, stronger trade networks and better access to wildlife resources are enabling growing demand to be met (Donovan 1999; Compton 2000; Chape 2002; World Bank 2007). Recent economic liberalisation in the region has also permitted deregulation of business, decentralisation and a shift towards market economies, slowly allowing increasing levels of commercial trade (Nooren & Claridge 2000; Ma et al. 2004). This has resulted in a shift from subsistence use of many wild animal species to almost wholly commercial trade serving the growing middle classes in provincial towns and cities (Compton & Le 1998; SFNC 2003; Donovan 2004; Roberton 2004). Polet and Ling (2004) observe that hunting around Vietnam's Cat Tien national park seems more closely related to rising urban wealth than the poverty of households near the national park.

Concerns about the over-exploitation of wild populations for trade has led to international and national legislation prohibiting trade in listed species (see Section 1.3). Nevertheless, in the last few decades Vietnam has swiftly developed from being a source of wildlife to becoming the region's "key distribution centre" (Lin 2005: 201). This is partly due to Vietnam's location and developed transport infrastructure and also to improved relations with China facilitating cross-border

Figure 1.1 Map of Vietnam and Peninsular Southeast Asia[1]

[1] Source: http://www.lib.utexas.edu/maps/middle_east_and_asia/vietnam_admin01.jpg

access (Geissmann et al. 2000). Donovan (1999) estimates that illegal wildlife trade in Vietnam is worth more than USD20million a year. More recently Nguyen (2003; 2008) estimated that the total revenue and profit from Vietnam's illegal wildlife trade is USD66.5 million and USD21 million per year respectively. This total profit is at least eight times greater than expenditure on monitoring and enforcement, and 12 times the total revenue from legal wildlife trade (USD 5.2 million) per year (Nguyen 2008).

Illegal trade in Southeast Asian wildlife is large, lucrative, highly organised and complex (Nooren & Claridge 2000; Broad et al. 2003; Roberton et al. 2004). Traders are able to respond rapidly to changes in supply or access by targeting new source areas, innovating transport methods and routes, exploiting weaknesses in enforcement and targeting new species within the same commodity group (SFNC 2003; Roberton et al. 2004). Traders frequently also have contacts within local authorities, allowing them to continue trading and obtaining advance warnings of enforcement activities (Roberton 2004; Roberton et al. 2004).

Links with other forms of organised crime including drug trafficking are testament to the profits that can be made (SFNC 2003; Roberton et al. 2004). For example, in 2003, one trader reported transporting an anaesthetised tiger from Laos to Vinh City in Vietnam for USD8,300 (Roberton 2004). In 2006, a gang broke into a snake farm in Dong Nai province where they stole a tiger for a buyer in central Vietnam who paid over USD11,000 for the carcass; the same gang are believed to be responsible for over thirty rare, high-value animal thefts in the country (VNA 2006). A common palm civet scent gland can fetch USD75/kg, pangolin scales USD60/kg and Sambar antlers USD29/kg (Roberton 2004).

Much wildlife traded in Vietnam is controlled by a relatively small number of traders using sophisticated, and sometimes violent, means (Nguyen 2003; SFNC 2003; Roberton et al. 2004). Many traders contract professional hunters and wildlife collecting teams to meet hunters in the forest to collect wildlife and provide supplies, often illegally crossing borders to hunt Laotian and Cambodian wildlife (SFNC 2003; Roberton 2004). Wildlife is brought into Vietnam by road and

foot, and often carried by ethnic minority people employed by traders (Compton & Le 1998; Nguyen 2003). It is delivered to traders by taxi, bus, motorbike, car, truck, boat or train, with army and police vehicles and freezer trucks used to transport more valuable cargoes (SFNC 2003; Roberton 2004; Roberton et al. 2004). Air travel is also used both within Vietnam and for transportation to China (Compton & Le 1998).

As Vietnam's wildlife populations have declined, traders have increasingly turned to neighbouring countries and today much wildlife traded via Vietnam originates from Cambodia, Laos and Thailand (Geissmann et al. 2000; Nooren & Claridge 2000; Stier 2001; Roberton 2004). Within Vietnam itself, the main sources of wildlife are protected areas (Nguyen 2003). Hunting levels increase towards the end of September as the monsoon ends, peak in the run-up to lunar new year (*Tết)*, and fall again as the monsoon rains arrive (Compton & Le 1998; Nguyen 2003). Civets, muntjac, hard-shell turtles, bears, pangolins and snakes dominate illegal trade in Vietnam; primates, sambar, small cats, otters and serow are also seriously threatened (TRAFFIC/WCS 2004).

While southern Vietnamese and Cambodian wildlife populations supply wildlife markets in Ho Chi Minh City, Hanoi acts as a node for all trade destined for Chinese and north Vietnamese markets, receiving wildlife from all over Vietnam, Laos and Cambodia (Compton & Le 1998; Nooren & Claridge 2000; Nguyen 2003; Nooren 2004). Recent investigations of the trade in wild animals in Quang Binh Province in northern Vietnam identified 74 wildlife traders, 23 of whom traded internationally while the remainder mainly suppled Hanoi and Vinh City in Vietnam (Roberton 2004). Investigations in Quang Nam and Nghe An provinces found wild animals being traded to the Vietnamese cities of Da Nang, Hanoi, Ho Chi Minh City and also to China (SFNC 2003; Roberton et al. 2004).

1.1.2. Markets for Southeast Asian Wildlife

Growing affluence throughout East and Southeast Asia is increasing demand for wildlife products (Milner-Gulland & Bennett 2003; World Bank 2005; TRAFFIC 2008). China almost certainly provides the largest market for Southeast Asian

wildlife (Nooren & Claridge 2000; Stier 2001; World Bank 2005; Harris 2008), demand for which has risen alongside rapid economic development and population expansion over the last twenty-five years (Li & Li 1998), and which also appears to be spreading. For example, since economic reform, preferences for eating snake meat spreading from the southern provinces to northern and western provinces (Zhou & Jiang 2004), and turtle meat from southern to northern China (Compton 2000; Lau & Haitao 2000). As well as consuming wildlife, China also plays important roles in processing and exporting wildlife products, which contributes significantly to the foreign exchange income of southern provinces (Li & Li 1998; Nooren & Claridge 2000). Hong Kong, South Korea, Taiwan and Japan are thought to be the next most significant destinations of products derived from Southeast Asian wildlife (Baird 1993; Nooren & Claridge 2000 in Duckworth et al. 1993). A considerable amount of trade is also destined for Thailand (Srikosamatara & Suteethorn 1994).

In Vietnam, as well as being a source of wildlife and a major channel for illegal trade to China, it is also generally thought that growing economic prosperity is increasing domestic demand for wild animal products. Based on direct investigations of wildlife trade in Vietnam and data collected from key informants, Nguyen (2003) estimated that as much as half the volume of live wild animals and wild meat traded in Vietnam is consumed domestically. Moreover, a recent survey of two thousand Hanoi residents found that almost 50% had used wild animal products in their lifetime, almost half of whom consume them up to thrice a year (Venkataraman 2007). This is perhaps unsurprising given that rising urban affluence is increasing expenditure in restaurants generally and leading to a shift towards more meat-rich diets amongst many Vietnamese (Thang & Popkin 2004; Tuyen et al. 2004). But with a population estimated to reach around 101 million by 2020 (UN Data 2008), any rise in demand for wild animal products in Vietnam parallel to economic growth is likely to have significant impacts on wildlife populations and regional wildlife trade networks.

1.1.3. Impacts of Illegal Trade in Wildlife

Today direct harvesting of wildlife by humans is deemed one of the greatest threats to the survival of species unique to tropical forest habitats and a direct threat to global 'biodiversity' (Redford 1992; Milner-Gulland & Akcakaya 2001; Bowen-Jones et al. 2003; Milner-Gulland & Bennett 2003; Robinson & Bennett 2004; Wilkie et al. 2005). However, while the 'bushmeat crisis' is mainly associated with Africa, wildlife depletion as a result of over-harvesting began in Asia (Milner-Gulland & Bennett 2003; Bell et al. 2004). And, while the African wild meat trade has been relatively well documented (e.g. Bowman 2001; Barnett et al. 2002; Bowen-Jones et al. 2003; Fa et al. 2003; Cowlishaw et al. 2005a), in Asia this has received much less attention.

In reality the scale of trade in wildlife is difficult to assess: wildlife trade supplies domestic and foreign markets and is exchanged along commodity chains involving a range of actors from both barter and market economies; most is unregulated - even where trade is more structured there is limited monitoring or information in terms of the species and products involved, their value, and the volumes traded - and illegal trade by its very nature avoids any monitoring that may be in place (Roe et al. 2002; Broad et al. 2003). Nevertheless, unsustainable hunting for trade is repeatedly identified as a primary threat to many of the region's species (Duckworth et al. 1999; Roberton 2004; Roberton et al. 2004; TRAFFIC/WCS 2004; Nguyen 2008).

Even if the exact scale of illegal trade is uncertain, its impact is increasingly evident with eradication of Asian wildlife happening faster than habitat degradation (Bennett et al. 2002; World Bank 2005). In parts of Southeast Asia species hunted for centuries have vanished entirely and in some areas even small mammals and birds have been extirpated (McGowan et al. 1998; Rabinowitz 2001). At least twelve vertebrate species have been hunted to extinction in Vietnam in the last forty years (Bennett & Rao 2002) and the Vietnamese government's Forest Protection Department (FPD) estimates that 200 species of birds and 120 other animal species have become locally eliminated in Vietnam over the last four decades, mainly due to illegal hunting and trade (Nguyen 2003). In Pu Mat National

Park in Vietnam, species extremely valuable to trade have been either nearly extirpated or severely diminished (World Bank 2005).

Wildlife depletion has serious implications for world food security. Wildlife makes direct contributions to human livelihoods, healthcare and nutrition (Pimental 2005; WHO 2008), and is particularly important for the poorest households in Cambodia (Piseth 2001; Nooren 2004), Laos (Foppes & Kethpanh 1997; Emerton 2005 in TRAFFIC 2008) and Vietnam (Raintree et al. 2007 in TRAFFIC 2008) where more than a quarter of the population live below the national poverty line (Asian Development Bank 2005 in TRAFFIC 2008). Wildlife also contributes to maintaining forest structure and, in turn, upholding ecological functions ensuring water security, agricultural productivity and the security of environmental systems upon which industry and economic development depend. Overexploitation of wildlife resources therefore threatens not only biodiversity but also all those who depend on it, whether directly or indirectly. But, although estimates of the national value of subsistence use and legal commercial trade in wildlife often place it as one of the most significant contributors to the economies of many of the countries involved, it is rarely included in national economic statistics or nutrition data (Rao & McGowan 2002; Bowen-Jones et al. 2003).

Illegal wildlife trade also poses a serious threat to human public health, as well as to livestock and wildlife (Bell et al. 2004; Karesh et al. 2005). The importance of ecological factors in disease emergence is increasingly being recognised (Schrag & Wiener 1995; May et al. 2001; Antla et al. 2003; Weiss 2005). Changes in environmental conditions alter the ecological context within which disease hosts and vectors behave, leading to adaptation to the new conditions; for example, in situations with an increased human population and reduced non-human population, some vectors convert from a primarily zoophilic to an anthrophilic orientation (Patz et al. 2000). Wildlife trade encourages such novel zoonotic infections through 'unnatural' cross-exposure of species through human intervention; exploitation of new source populations for trade as a result of depletion elsewhere; increased movement and expanding trade chains; and newly exposed consumer populations (Bell et al. 2004; Karesh et al. 2005). HIV is one

such case which has reached such epidemic proportions it is now considered a primarily human disease (Hahn et al. 2000; Taylor et al. 2001). The lethal SARS epidemic of 2003 is believed to have originated in wildlife markets in southern China (Bell et al. 2004) while the third great bubonic plague in the late nineteenth century has been traced to Western Yunnan and is believed to have been spread by wildlife trade (Benedict 1996).

1.2. Managing Wildlife Exploitation

In the new millennium there has been a growing awareness of, and willingness to address, illegal wildlife trade from regional governments. For example, the 2005 to 2010 ASEAN Action Plan on Forestry included improved compliance with CITES – of which all ASEAN countries are members – and wildlife trade controls as key objectives (World Bank 2005). A number of national and international conservation NGOs are also working with governments to combat illegal trade.

To protect species from over-exploitation, conservation interventions have traditionally been founded on basic economics, for example aiming to increase the cost and/or reduce the benefits of harvesting species. Increasing costs typically involves the introduction and enforcement of regulations, while reducing benefits typically involves campaigns aiming to reduce consumer demand for wild species through social marketing or awareness raising campaigns. Although regulatory approaches have been the principal approach to stemming over-exploitation of wildlife for trade, increasing emphasis is now being placed on reducing demand for wildlife products. "Supply-side" approaches to reduce pressure on wild populations, including substitution with farmed wild products are also receiving greater consideration (Bulte and Damania 2005: 1223). These different strategies, with particular reference to Vietnam, are reviewed in turn below.

1.2.1. Regulatory Approaches: Restricting Harvest and Trade

Regulation of harvesting and trade in wildlife has been the predominant response to concerns about overexploitation of wildlife, particularly regarding international trade (Broad et al. 2003). This includes local and national legislation interventions, and multilateral conventions such as CITES. These regulate wildlife trade and/or

harvesting through access to wildlife resources - i.e. exclusion from protected areas - or export controls and may involve the use of permits, taxes, fees, concessions or full bans (Roe et al. 2002; Moyle & Oldfield 2005). Penalties range from the confiscation of hunting equipment to fines, imprisonment or even death (Messer 2002 in Bulte and Damania 2005).

The precautionary principle is often applied and trade bans or strict limitations on trade volumes have been common (Broad et al. 2003). This has been encouraged by a large component of the environmental movement within developed nations opposed to trade in at least certain species on an ethical basis (Dickson 2003). Some in developing countries have tried to depict this anti-utilitarian viewpoint as unlawfully burdening the wider conservation community with foreign moral values, often highlighting the ethics of excluding the rural poor from wildlife resources (Dickson 2003). So, although absent in the original treaty, the role CITES plays in sustainable development has become increasingly significant, and sustainable development is now included in its 'Strategic Plan' (Dickson 2003). This shift also reflects a more general move in conservation towards community-based conservation.

1.2.1.1. Regulatory Approaches in Practice

Despite their wide use, the efficacy of regulatory approaches is widely debated, and due to its prominence in regulating international wildlife trade this debate tends to focus on CITES. Owing to the complexity of wildlife trade, the number of factors that affect wildlife populations and limited information availability, isolating the impacts of specific regulatory measures is extremely difficult (Dickson 2003). Trade controls impact differently on foreign and domestic markets and on different stakeholders, and are only some amongst many other factors that influence access to wildlife resources and markets in unpredictable ways, mitigating or complementing regulation efforts (Roe et al. 2002). For example, economic collapse in Southeast Asia in 1997 and in Venezuela in 1983 was forecast to reduce demand for wildlife in line with reduced purchasing power in the region but the opposite occurred: harvests increased to supply thriving markets in East

Asia and the West, and provided much-needed income in areas where economic downturns were felt most strongly (Donovan 1999; Rodriguez 2000).
A temporary trade ban helped *Vicuña* populations recover in Argentina and trade bans have also reduced trade in spotted cats and wild birds (Ginsberg 2002; Bonacic & Gimpel 2003; Burton 2006). But while trade bans appear to have protected some species, trade in other species has continued or increased despite them. For example, trade in reptile skins is still considerable and trade in poison arrow frogs has increased (Roe et al. 2002); international trade in endangered species such as the Tibetan antelope in China is expanding (Li et al. 2000); and persistent illegal trade in rhino horn continues to contribute to plummeting rhino populations (Leader-Williams & Oldfield 2003). In addition, where wild products have high value, there is persistent consumer demand for them and enforcement is weak, attempts to put an end to legal markets rarely have had any effect other than to drive trade underground making monitoring impossible (Bennett et al. 2000; de Plessis et al. 2000; Martin et al. 2000; Moyle & Oldfield 2005). Regulation can also simply lead to substitution and shift impacts to other species with similar features or to other range states (Roe et al. 2002).

While there may be few clear-cut success stories as a result of regulation, it is possible that there may have been more failures to report without it. Moreover, cultural, geographical and species-specific factors affecting the efficacy of regulations are frequently over-simplified, with inappropriate examples often used in support or against the use of trade bans in very different circumstances (Burton 2006). Research does not show that regulatory approaches are redundant, but that they are only likely to succeed with management closer to "first-best"[2] support from governments (Swanson 2007: 111). Yet many endangered species are found in developing countries with scant resources and where wildlife protection is rarely high on government agendas. So while alternative approaches to managing illegal wildlife trade should be explored, regulatory approaches should not necessarily be dismissed.

[2] "First-best" management is the "level of management that would have been chosen if the cost of management services was zero; [it] is an ideal – one that exists within a world of costless resources." (Swanson 2007).

1.2.1.1.1. Regulatory Approaches in Vietnam

The Vietnamese government has a range of legislation aiming to reduce over-exploitation of wild species (Appendix D). This began in 1992 with the issuance of Decree 18/1992/HDBT-CP protecting threatened species, and the Red Book of Endangered Species (Compton & Le 1998; TRAFFIC 2006a). Since joining CITES in 1994, the following have also been introduced in Vietnam: the Law on Environmental Protection; the National Biodiversity Strategy and Action Plan; and the National Action Plan to Strengthen Trade Controls of Wild Species of Fauna and Flora from 2004 to 2010 (Lin 2005). Vietnam is also part of the ASEAN wildlife initiative launched in 2004, the first commitment of all Southeast Asian countries and China to co-operate in tackling illegal wildlife trade (Lin 2005). China became a member of CITES in 1981, Cambodia in 1997 and Laos in 2004 (CITES 2008)

The Forest Protection Department (FPD) under the Ministry of Agriculture and Rural Development (MARD) is responsible for enforcing wildlife legislation. Enforcement is poor and there is a general absence of awareness of the law and/or concern about it being applied (Compton & Le 1998; Hendrie 2000; Nguyen 2003; Roberton et al. 2004; Anon. 2006). Inadequate enforcement can be largely attributed to corruption within government authorities and a lack of importance placed on wildlife conservation by the authorities (Compton & Le 1998; Nguyen 2003; Roberton 2004; Roberton et al. 2004; Nguyen 2008). Wildlife trade actors are also typically better equipped and organised than enforcement agencies: the FPD are hindered by a lack of resources and capacity, the absence of a fully developed legal framework, and a decentralised and disjointed administrative system (Compton & Le 1998; Nguyen & Reeves 2005; Nguyen 2008). As such, regulatory approaches are currently not sufficiently restraining illegal trade in wildlife in Vietnam.

1.2.2. Consumer-Targeted Approaches: Reducing Demand

Without demand for wildlife products there would be no incentive to hunt and trade wildlife, so conservationists are increasingly targeting consumers in an attempt to reduce consumption of endangered species, and in turn the incentives

to hunt them. Consumer-targeted approaches are now considered an important component of conservation efforts (Srikosamatara 1992; Wilkie & Carpenter 1999; Bowen-Jones et al. 2003; Venkataraman 2007) and awareness-raising and social marketing are typically the tools used (Wilkie & Carpenter 1999; Roe et al. 2002). Social marketing campaigns aim to influence public values, alter consumer preferences and/or stigmatise consumption behaviour while awareness raising initiatives are based on the premise that people consume wild animals because they are unaware of the impacts of their consumption behaviour on wild populations and/or are not aware of the 'importance' of protecting wild species.

The rationale behind environmental awareness raising campaigns mirrors that behind similar campaigns aiming to alter behaviour such as unsafe sex (Bosompra 2001), drug misuse (Duff 2003) and refusing immunisation (Hobson-West 2003). These view individuals as a rational actors who use new knowledge to avoid detrimental outcomes, and is based on Ajzen and Fishbein's (1980) theory of reasoned action (TRA). This hypothesises that one's intention to behave in a certain way results from one's attitude to that particular behaviour and, because attitudes are based on information about the "attitude object", that attitudes, and in turn behaviours, can be altered by new information (Ajzen & Fischbein 2000: 3; Dutta 2007).

The TRA appears to have heavily influenced those aiming to cultivate sustainable environmental behaviour. For example, when environmental concern found amongst the individuals under study does not translate into pro-environmental behaviour, researchers studying populations in various regions including in the USA, Japan, Germany, Hong Kong, South Korea and the UK have attributed this to a lack of knowledge and/or poor understanding of the human-led processes that lead to environmental change (e.g. Kellert 1993a; Chan 1999; Mankin et al. 1999; Bord et al. 2000; Kang & Phipps 2003). Accurate knowledge is also considered an important component of support for environmental policy: it is argued that raising public knowledge enables local narratives to be heard and integrated into policy debates, serving to engender public support (Hunter & Brehm 2003). Raising awareness is now considered a key solution in solving many environmental

problems in Asia including demand for wildlife (Chapman & Sharma 2001; Shiping et al. 2006; Le 2007; Tong 2007).

However, persuading individuals to altering their behavior is now considered by psychologists to be a much more complex process than simply providing information (Ajzen & Fischbein 2000). Individuals have been shown not to respond rationally to new knowledge about health risks and to make conscious choices to evade specific types of information; behaviour has also been shown to be influenced by social context and the degree to which any information source is trusted (Alaszewski 2005). As well as failing to capture the socio-cultural context of human behaviour, TRA is embedded within an individualistic philosophy within which choices are made at an individual level and is therefore also limited in its application to collectivist cultures (Dutta 2007).

Lee (1990 in Chan 2001) believes that conversion of knowledge into action is inhibited in Confucian societies because they are more inclined to conform with social norms and are more concerned about losing face; collectivism also means that individual interests should be subdued in favour of the interests of the group (Chan 2001). Indeed, although Fryxell and Lo (2003) found that environmental knowledge and values were predictive of green managerial behaviour in China, this tended to be restricted to personal actions within the wider organisational structure, rather than obvious behaviours, to minimise environmental impacts. They suggest poor links between environmental knowledge, values and managerial behaviour arise because of the perceived risks of pursuing objectives that may be viewed as personal and peripheral to those of the organisation (Fyxell & Lo 2003).

So unsurprisingly, although a range of psychological constructs including knowledge, expressed intention, attitudes and memory have been implicated in, and widely researched with regards to, the shaping of environmentally friendly behaviour, their relationships with environmental behaviour are still uncertain (Chan 2001). Attitudes towards, and concern about, the environment are shaped by social, political and cultural forces (Szagun & Pavlov 1995), and the ways in

which knowledge, attitudes and behaviour interact are also influenced by socio-cultural context (Greider & Garkovich 1994 in Hunter 2000). Barr et al. (2003: 409) argue three variables are key in determining environmental behaviour: environmental values; situational factors such as access to services, knowledge and experience; and psychological variables including personality traits, subjective norms (i.e. social pressure) and logistical factors (i.e. a belief in the effectiveness of individual actions).

Using more complex social marketing techniques to alter the beliefs that underlie attitudes is also beginning to increase in popularity, and there is an emerging field of conservation psychology looking at ways to cultivate pro-environmental behaviour (Saunders 2003). First used in the field of health, social marketing tools are now being widely used by NGOs and agencies such as the World Bank to tackle issues such as crime, consumer debt, environmental degradation and animal welfare (Andreasen 2001). These methods can be extremely powerful and their increasing use raises a number of ethical questions. For example, should campaigns be permitted to distort or exaggerate facts to obtain a desired change in behaviour and is it ethical for Western NGOs to use social marketing to alter the underlying beliefs shaping attitudes in foreign cultures in order to achieve their own aims? While some argue ethics standards should be lower than for their corporate counterparts because social marketing campaigns are for 'worthy' causes, others believe standards should be more stringent for this very reason (Andreasen 2001).

1.2.2.1. Consumer-Targeted Approaches In Practice

Social marketing campaigns have effectively stigmatised ivory consumption, reducing demand for ivory across Europe, North America, and Japan (Stiles 2004) while in India the 'say NO to Shahtoosh[3]' campaign has also been considered a success (Misra 2003: 83). In the latter half of the twentieth century, wearing animal fur became widely morally unacceptable in the West following campaigns by animal rights lobbyists, although it is now becoming fashionable once more

[3] 'Shatoosh' is a shawl made from the extremely fine wool of the Chiru (*Pantholops hodgsonii*) also known as Tibetan Antelope.

(Skov 2005). Exposure to environmental messages in mass media has also been positively correlated with environmental knowledge and behavioural change amongst students in Hong Kong (Chan 1999) and to a reduction in pesticide use by farmers in Vietnam (Huan et al. 1999).

More recently, a number of campaigns targeting consumers of wildlife products have been launched. For example, WildAid's 'World Champions for Wildlife' public campaign is estimated to have reached over one billion people viewers per week across Europe, the Middle East, Africa, Asia, Latin America and the Caribbean (Anon. 2004). A campaign called "A Million Cooks Sign For Not Cooking Wildlife Meat" was also recently launched by the Chinese Wildlife Protection Society (Yang et al. 2007: 23). In Vietnam, awareness campaigns have targeted schools and included televised advertisements involving celebrities. For example, in 2007 a campaign targeting demand for wild animal products was designed by Saatchi & Saatchi and launched by WWF, and supported by a renowned Vietnamese scientist and a Vietnamese body-building athlete (Anon. 2006; TRAFFIC 2008). In 2008, ENV issued a television broadcast in which a senior staff member orders bear bile wine and an accompanying junior staff member refuses to drink it, and a radio broadcast in which a famous female pop star appeals to men not to eat wild meat (pers. comm. ENV 2008).

Although campaigns have been successful in raising awareness, experts working in conservation in Southeast Asia do not consider those so far to have resulted in any long-term reduction in overall consumption behaviour in Southeast Asia (TRAFFIC 2008) or in China (Pers. comm. Yan Lu). Others believe that cultural preferences for wildlife products in Asia are too deeply embedded to be reduced through either education or the promotion of substitutes (Nooren & Claridge 2000; Wilkie & Godoy 2001). Instead they fear that the desire for highly prized products is likely to reinforce demand for the genuine article, with consumers willing to pay high prices. Indeed, consumption does not appear to be reducing but becoming more popular in Vietnam (TRAFFIC/WCS 2004). The expert-led report concludes that there is still a significant lack of understanding about the relationships between

wildlife-related awareness, attitudes and consumer behaviour in Southeast Asia (TRAFFIC 2008).

The fact that so little is known about existing perceptions and knowledge of wildlife, conservation or consumption, and that there is so little upon which to base awareness campaigns, is surely also a major contributor to the failure of these campaigns to visibly reduce consumer demand for wild animals. Consumers, as the stakeholders most removed from extraction and as a group of people who are very varied in their motivations and preferences, are poorly understood. Despite the growth in demand for wild animal products in Southeast Asia there is little understanding of the economic and social drivers of these markets, seriously hindering the design of measures to reduce illegal and unsustainable trade (TRAFFIC 2008). Better understanding of what drives consumption is therefore required to predict the effect of rapidly changing socio-economic conditions, demography and policy, and ultimately to design and target interventions more effectively (Lee et al. 2000; Milner-Gulland & Bennett 2003; East et al. 2005); attention needs to be directed at urban consumers in particular (TRAFFIC 2008: xiv). Moreover, assessing public views and knowledge of wildlife not only permits the development of more pertinent and ultimately more effective campaigns, but also those fostering co-operative, and avoiding antagonistic, responses (Reading & Kellert 1993).

1.2.3. Supply-Side Approaches: Farming Substitutes

Traditional economic theory – in which trade is characterised as being perfectly competitive - predicts that legal products will lower prices by satisfying consumer demand, whereas prohibition will increase prices for illegally produced goods (Barbier & Swanson 1990; Heltberg 2001). On this basis, the supply-side approach to conservation aims to flood the market with cheap, legal substitutes for wildlife commodities thus lowering prices and in turn reducing the incentives to hunt and trade (Bulte and Damania 2005). The provision of cheap substitutes is proposed either through wildlife farming or ranching[4], the production of synthetic

[4] Wildlife farming generally refers to intensive management of wild stock while wildlife ranching typically means less intensive husbandry in semi-free ranching situations (Bulte & Damania 2005).

substitutes or legal sale of confiscated products. A necessary element of this approach is the legalisation of trade in certain species or products in order to crowd out illegal trade (Bulte & Damania 2005).

Based on this theory, captive breeding of wild species as a conservation tool is being encouraged in Cambodia, China, Indonesia, Malaysia, Thailand, Laos and Vietnam and is also being encouraged by CITES and certain IUCN specialist groups (TRAFFIC/WCS 2004). The production of farmed substitutes for wild products has been proposed as a measure to reduce illegal trade in a number of specific species including seahorses (Parry-Jones & Vincent 1998), musk deer (Parry-Jones 2001) and bears (Mills et al. 1995 in Bulte and Damania 2007). Lapointe (2007) argues that wild populations suffer more from regulations which drive trade underground where it cannot be monitored than from legal markets, and supports legalisation of trade in tiger parts. In addition, in some areas and for certain products such as those popular in traditional medicine, some think demand may be so strong that conservation may simply be impossible without wildlife farming (Parry-Jones & Vincent 1998). Other potential advantages include reducing animal morbidity and disease transmission by reducing distances between source and consumer and the provision of genetic reserves (Bulte & Damania 2005). Nevertheless, the legalisation of trade in, and farming and ranching of, endangered species is a controversial and, as I will demonstrate below, a largely untested approach to conservation.

1.2.3.1. Supply-Side Approaches in Practice

Ranching systems - whereby initial stocks are taken from the wild - have the advantage of potentially maintaining incentives for conserving wild stock, but they may also intensify pressure on wild populations and, if very successful, remove incentives for conservation altogether, ultimately causing existing sustainable use initiatives to fail (Anon. 2001; Bulte & Damania 2005; MacGregor 2006). For example, Haitao et al. (2007) report that turtle farming in China has intensified pressure on wild populations required to maintain reproductive viability of captive populations, and that as native species decline farmers are switching to non-native species that breed more readily. Similarly, despite the undoubted success of the

role of commercial farming in conserving some crocodilian species, Thorbjarnarson (1999) reports that a focus on sustainable use has led to a shift in attention towards more common species of high commercial value and away from those most threatened. There are also concerns that interbreeding between wild and captive animals may pass on damaging genetic traits to wild populations (e.g. Dalton 2003) and that farming will produce domesticated "phenotypes", a process some consider equivalent to extinction (Peterson et al. 2005: 940).

In reality, the illegal wildlife trade is much more complex than traditional economic models suggest, characterised by imperfect competition due to the involvement of organised criminal networks, which exercise significant control over supplies and prices (Bulte & Damania 2005; Damania & Bulte 2007). Moreover, raising slow-breeding wild species such as tigers is significantly more expensive and time-consuming than poaching them, leaving strong incentives for illegal traders to undercut farmers in any legal market (Gratwicke et al. 2008). Laundering illegal goods under the guise of legal trade may also make trading illegal goods easier (Fischer 2004; TRAFFIC/WCS 2004), particularly where enforcement capacity is limited. Indeed, in China, a recent report concludes that illegal trade in tiger-derived products, laundered under the guise of domestic trade from captive bred animals, is widespread (IFAW 2006). In Vietnam wild meat restaurateurs were keen to develop wildlife farms suggesting this would make laundering and raising wild-caught animals easier (Roberton 2004). Distinguishing between farmed and wild-caught products such as tiger bone (Box 1.1.) requires forensic analysis making monitoring unaffordable (IFAW 2006).

Box 1.1. Medicinal Use of Tigers in China and Vietnam

Tiger bone jelly (*cao hổ*) is one of the most valued Vietnamese traditional medicines, costing up to 380USD for 100g in Hanoi (Nguyen & Nguyen 2008). Tiger cao is used to treat rheumatism, paralysis and as a "supertonic" to give strength (Compton & Le 1998; Compton 2000; Nguyen 2006: 153). Nguyen (2006: 153) describes its preparation:

> "The bones are completely cleaned [...] and broken to release the marrow. They are [...] put into a big cooking pot filled with water, and boiled for 24 hours, when more water is added to compensate for the quantity evaporated. Two hours later the first liquid is taken off. A second, then third operation of this kind is repeated. The liquid obtained [...] is boiled together [...] until the mixture has the desired glue-like consistency. The semi-liquid is poured onto a tray [...] and when it is cool it is cut into [...] pieces. The yield is 30kg [...] for 100kg of bones."

The cao can be made from the entire skeleton, costing up to 18,000USD in Hanoi (Nguyen & Nguyen 2008). Other tiger parts, including the liver, tendons, penis and paws, are also used in traditional Vietnamese medicine; in Hanoi a penis - believed to improve sex performance and cure impotence - costs over 1500USD and a whole liver almost 1000USD (Nguyen & Nguyen 2008).

In China tiger bone medicines and health tonics were mass-produced in factories, the annual off-take peaking in the 1960s at around three hundred tigers, producing approximately three metric tonnes of tiger bone jelly, but declining in subsequent decades reflecting diminishing numbers of tigers in the wild (Jenkins 2006 in Nowell and Xu 2007; Nowell & Xu 2007). China joined CITES in 1981 after which no official imports of tiger bone are reported: but domestic tiger populations were too low to support the ongoing domestic trade and evidence suggests that tigers were smuggled into China from other range states (Nowell & Xu 2007). Responding to international concern, in 1993 China strengthened protection of the tiger, prohibiting all tiger-derived products and effectively reducing supply (Nowell 2006). Proposed relaxation of the law in China regarding sales of tiger tonic is likely to reverse this trend (Nowell & Xu 2007). Trade in tiger parts is also prohibited in Vietnam but nevertheless takes place quite openly (Nguyen & Nguyen 2008; pers. obs.)

Incorporating imperfect competition arising from shifting consumer preferences and laundering into such models predicts ambiguous and potentially shifting effects on remaining demand for wild products (Damania & Bulte 2007). This perhaps explains the varied outcomes of wildlife farming ventures to date. For example, Mills et al. (1995 in Damania and Bulte, 2007) report that bear farming stabilised prices of bear bile (Box 1.2) in China while prices inflated elsewhere. Farming of *Vicuña* in Argentina has also contributed to their conservation (Bonacic & Gimpel 2003). In contrast, laundering alongside legal ranching is reported responsible for the near-extinction of crocodiles in Thailand and moon bears in China and Vietnam (Meacham 1997). Similarly, Haitao et al. (2007) argue laundering of wild turtles alongside captive-bred animals is accelerating the extinction of turtle species.

Box 1.2. Bear Bile and Bear Farming

Bear bile has been used in Traditional Chinese Medicine (TCM) for over 2000 years; traditionally taken from bears killed in the wild, the expense and rarity of bear bile served to mystify its curative properties (Li 2004). The process of extracting bile from live bears was not developed until the 1970s, in North Korea (Li 2004). Bears are anaesthetised and ultrasound scans are used to locate the gall bladder into which a needle is then inserted enabling the bile to be removed with a syringe; 10-100ml of bile is harvested on each occasion and extraction typically occurs up to four times a year (Nguyen & Nguyen 2008).

In China, by the mid-1990s, there were believed to be up to 600 bile farms keeping over 10,000 bears (Li 2004). Following international condemnation, farming bears for their bile was banned in Vietnam in 1992 and, in 1994, the Chinese government declared no new farms would be permitted: there are nevertheless currently still an estimated 7000 and 4000 bears on bile farms in China and Vietnam respectively (Robinson et al. 2006; Nguyen & Nguyen 2008). With a continually open wound, the bears are highly susceptible to infections and frequently die. Despite being commonly referred to as farms, there is limited evidence of captive breeding and many bears are sourced from the wild (Cochrane & Robinson 2002; Li 2004; TRAFFIC/WCS 2004; Robinson et al. 2006; Nguyen & Nguyen 2008).

Bear bile is widely used today in both China and Vietnam to treat a variety of ailments including gastric and muscular pains, indigestion, jaundice, poisoning and strains (Li 2004; Nguyen & Reeves 2005; Nguyen 2006: 155). The chemical structure of Ursodeoxycholic Acid (UDCA) was first defined from bile of an Asiatic Black Bear (*Ursus thibetanus*), after which it was subsequently named (Lazaridis et al. 2001). Although UDCA is a found in relatively large amounts in the Asiatic Black Bear, it occurs in lesser quantities in the bile of other mammals including humans, and it has been possible to chemically synthesise since 1936; this manufactured UDCA has been clinically proven to have beneficial effects in various liver disorders (Van De Meeberg & Van Erpecum 1993; Lazaridis et al. 2001).

Traditional economic models also assume demand for wild animal products is constant, meaning that any additional supply of captive-bred products will reduce demand for wild-caught products and hence reduce prices (Damania & Bulte 2007). They ignore, for example, complexities such as that law-abiding consumers may operate in a separate market from illegal consumers, and therefore legal trade may serve to condone consumption, effectively removing social and legal restrictions by giving the impression that these species are no longer endangered, and subsequently introducing law-abiding consumers into the market and unintentionally increasing demand and inflating prices (Clayton et al. 2000). For example, the 1993 ban in China of trade in tiger-derived products was considered effective at reducing the supply of tiger parts in China (Nowell 2006) and encouraging Traditional Chinese Medicine (TCM) practitioners to recognise alternative medicines; tiger bone was removed from TCM pharmacopoeias in 1993 (Meng & Zhai 2000; IFAW 2006 in Gratwicke et al., 2008). But resuming legal trade in tiger parts may undo conservation investment over the past two decades by revitalising a waning market (e.g. Ho 2007; Gratwicke et al. 2008). Moreover in

Vietnam it is thought that a recent increase in farming of soft-shell turtles has amplified demand, with many more restaurants now including them on their menus (pers. comm. Roberton S.). Not only might demand increase as a result of wildlife farming but existing demand may already be such that farmed substitutes cannot quench it. China, for example, produced approximately 300kg of musk per year between 1982 and 1993 and yet Chinese demand in the 1990s is estimated at 500-1000kg/year (Yang et al. 2003).

For wildlife farming to be successful as a conservation tool, its products also need to be acceptable substitutes for consumers. One Vietnamese traditional medicine practitioner (Nguyen 2006) views rearing wild animals as one method of maintaining a sustainable source of wild animal-derived medicines, and also advocates using buffalo horn in place of rhino horn and bones of domestic livestock in place of tiger bones. Moreover, Von Hippel and Von Hippel (2002) report a drop in trade of harp seal and hooded seal penises and velvet from reindeer antlers - products widely considered aphrodisiacs in TCM – into the United States between 1988 and 2000 and relate this to the availability of the more affordable medicine Viagra. Von Hippel et al. (2005) have also documented TCM consumers in Hong Kong switching from TCM to Viagra to treat erectile dysfunction, though admit some use a blend of both traditional and Western approaches because they believe the latter does not address the underlying causes. So it seems that both consumers and practitioners are open to substituting some wild animal products with farmed and synthetic alternatives.

However, Robinson et al. (2006: 4) report that traditional medical practitioners consider farmed bile polluted because the mental and physical suffering of the bears contravenes the philosophy of harmony with nature upon which traditional medicine is based, and because potentially toxic substances may also be present in the bile extracted from the gall bladders of unhealthy captive bears. Hoover (2003) also convincingly discredits the claim made by von Hippel & von Hippel (2002) that Viagra has reduced trade in wild animal parts. Moreover, although Mills et al. (1995 in Damania and Bulte 2007) report farmed bear bile gaining greater acceptance over the last decade, Robinson (2006) points out that despite large

surpluses of farmed bear bile being produced wild bears continue to be hunted because wild bile is more valuable than farmed. Meacham (1997) argues where farmed alternatives are viewed as inferior substitutes availability of legal goods may actually stimulate demand for genuinely wild products amongst new consumers. A preference for wild specimens of *Pelodiscus sinensis* - by far the most commonly farmed turtle species – has already been reported in China (Shi & Parham 2000).

Wild animals are also considered to be more medically potent than domestic animals (Cotterel 1986; Anderson 1988) and, when both farmed and wild products are available, the latter are generally preferred (IFAW 2006). Almost half the respondents in a survey of Chinese wild meat consumers reported a preference for 'real' wild meat (Zhang et al. 2008) and there is already anecdotal evidence of a cultural preference for wild-caught goods over farmed equivalents in Vietnam (TRAFFIC/WCS 2004). But with limited data available informing the ability of wildlife farming to satisfy consumer demand for wild animals and hence reduce pressure on wild populations, research is urgently needed to assess the potential of wildlife farming as conservation tool. The present study therefore examines the potential of farmed wild products to satisfy demand in central Hanoi.

1.3. Summary and Research Aims

This chapter has documented the shift in conservation theory from regulation and exclusion towards more inclusive, sustainable use approaches. It has also demonstrated the theoretical potential of regulatory, supply-side and consumer-targeted approaches in reducing excessive exploitation of wild species and highlighted the challenges presented by each approach in achieving this goal. While much research has focused on wildlife trade and harvesting, fewer studies have explored the potential of supply-side and consumer-targeted approaches, especially concerning demand for wild animal species in Southeast Asia. This thesis aims to address some of the gaps outlined in this chapter by studying wild animal consumers and consumption in central Hanoi, and by pursuing the following specific research aims:

- assessing the role of domestic wildlife consumption on trade-driven wildlife decline in Vietnam (Chapter 4);
- investigating the social values associated with wild animal products, the social context of their consumption and the characteristics of consumers of wild animal products (Chapters 4, 5, 6);
- gauging the potential for wildlife farming to satisfy urban consumer demand for wild animal products with farmed substitutes (Chapters 6, 7);
- examining the relationships between wild animal consumption, awareness and attitudes towards wild animals, their use and conservation (Chapter 8).

1.5. Thesis Structure

The following chapter (Chapter 2) outlines background information on the study area and cultural context of the research, while Chapter 3 details the methods used to collect the data presented throughout the thesis. In the first data chapter (Chapter 4), the scale and form of wild animal consumption amongst central Hanoians is examined, and the context of wild meat consumption investigated. In Chapter 5, a detailed profile of the consumers of wild meat and wild animal-derived medicinal products is given. This is followed in Chapter 6 by an examination of the values associated with wild animal products and the role these play in driving their consumption, and then, in Chapter 7, by an investigation into the ability of products derived from farmed wild animals to satisfy consumer demand for products from wild animals. Chapter 8 explores the factors that influence wildlife-related knowledge, investigates the relationship between wildlife-related knowledge and awareness and wild animal consumption behaviour, and explores dominant attitudes towards wild animals and their conservation, and methodological issues in researching attitudes and knowledge. Finally, Chapter 9 draws together all five data chapters to make recommendations for future conservation management.

2. The Socio-Cultural Context of the Research

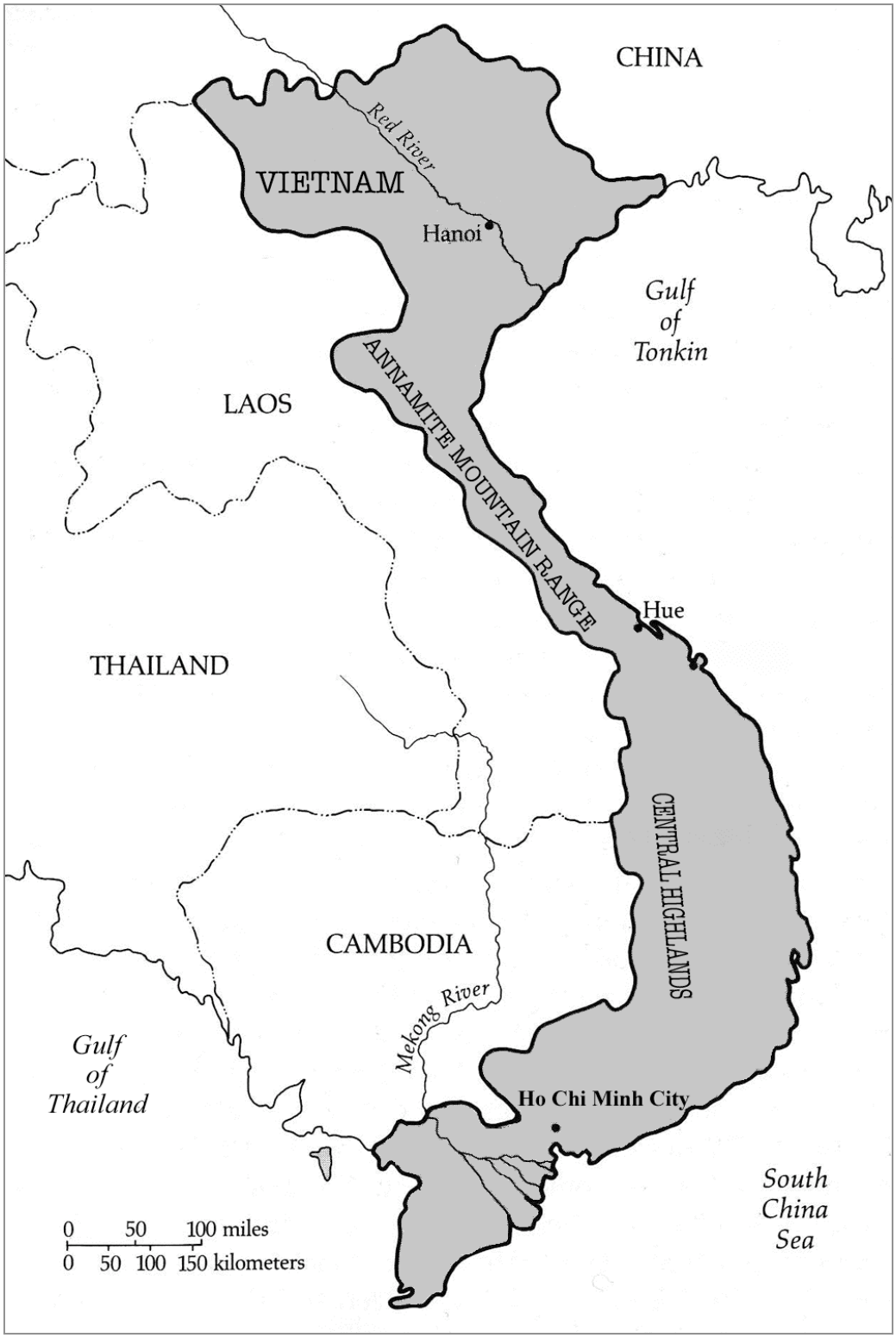
This research takes place in the context of rapid socio-economic change and in a culture very different from those in which conservation practice is typically devised. The background literature reviewed in this chapter is drawn upon to interpret the findings presented throughout the thesis and provides important background material for the reader.

2.1. Population and Geography

Vietnam reaches from China in the north to the Gulf of Thailand in the south (Figure 2.1). Its capital, Hanoi, sits at the confluence of three rivers flowing through the northern Red River delta to the South China Sea (Duiker 2002: 16). Home to over two million people and almost a matching number of motorbikes, Hanoi is a congested cacophony of life (Boudarel & Nguyen 2002; Nguyen 2002b; VietnamNet 2007). Ho Chi Minh City, formerly Saigon, is Vietnam's centre of industry, located in the southern Mekong Delta (Ashwill & Diep 2005). These two productive deltas are joined by a thin 1500km band of coastal lowlands, alongside inland hilly and mountainous regions (Jamieson 1993; Ashwill & Diep 2005). The climate is warm moist tropical in the south and moist subtropical in the north, with temperate zones above 2000m (Ashwill & Diep 2005).

With an estimated population of 88 million in 2007, Vietnam has the thirteenth largest population in the world (UN 2006). Ninety percent of the population are ethnic Viet, and the remainder comprises 52 different ethnic groups (Ashwill & Diep 2005). The largest minority group, the Han Chinese, are typically based in urban areas and known for their involvement in business (Ashwill & Diep 2005) and links to wildlife trade (Nooren & Claridge 2000). The dominant Viet population is concentrated in the Red River Mekong Deltas (Jamieson 1993).

Figure 2.1 Map of Vietnam adapted from Jamieson (1993: 4)



Most ethnic minority groups live in the central and northern highlands. These groups are often considered by Vietnamese government bureaucrats to be backward, ignorant and irrational (Jamieson 1996 in van der Walle & Gunewardena 2000; Neef et al. 2000) and are viewed negatively by the Viet majority (van der Walle & Gunewardena 2000). The practice by many ethnic minority groups of shifting cultivation is also widely perceived unsustainable and a threat to both security and natural resources (Neef et al. 2000). Government policy has attempted to encourage a switch from shifting to permanent cultivation by offering greater security of land tenure, but Neef et al. (2000: 12) observe that this has in fact led to more intensive exploitation in parts of upland northern Vietnam.

2.1.1. Biodiversity

Located in 'Indo-Burma', Vietnam is in one of twenty-five 'biodiversity hotspots' selected for their exceptional densities of endemic species (Myers et al. 2000). Boasting an exceptionally high proportion of endemic species, the country is consistently ranked in the top twenty most biodiverse countries in the world (Pilgrim & Nguyen 2007). The Central Highlands and the Annamite mountain range are the most diverse regions of Vietnam, home to recently discovered mammal species including the Saola (*Pseudoryx nghetinhensis*) and the large-antlered muntjac (*Megamuntiacus vuquangensis*) (Warne & Tran 2002; Roberton et al. 2004). Large numbers of plant, reptiles and amphibian species, three new bird and two further mammal species have also been discovered in the last fifteen years (Sterling et al. 2006 in Pilgrim & Nguyen 2007). But an estimated 28% of mammals, 10% of birds and 21% of reptiles and land amphibians, amongst others, are threatened and recent extinctions include that of the Tapir (*Tapirus indicus*) and the Sumatran Rhino (*Dicerorhinus sumatratrensis*) (Warne & Tran 2002).

2.2. A Brief History

For many, thinking of Hanoi summons the horrors of a controversial war that continues to haunt the West. But to the Vietnamese the 'American War' is one of many conflicts that this resilient people and their now modern, bustling capital have endured. Hanoi - first know as *Thăng Long* or 'Rising Dragon' - has been a capital city since independence of the first Vietnamese state of *Đại Cồ Việt* from

Han rule in 1001AD (Boudarel & Nguyen 2002; Duiker 2002). Following repeated occupations, the Le Dynasty finally ejected the Chinese in 1428AD and began extending the Vietnamese borders southwards (Duiker 2002).

However, over the following centuries discord brewed between the two most powerful noble families, one in the north, the other in the south: while the south established links with international trade and became increasingly prosperous, the north remained highly traditional and introspective, instituting a cultural rift that was to have a major impact on the country (Duiker 2002). In 1802, in an effort to reunify the north and south, the new Nguyen Dynasty (1802-1945) moved the capital to *Huế* in central Vietnam; losing its status as an imperial city *Thăng Long* was renamed *Hà Nội* meaning 'amid the rivers' (Duiker 2002).

In the 1860s French troops defeated imperial armies near Saigon and the Mekong Delta became Cochin China; two more years and the French had claimed the entire Vietnamese empire (Duiker 2002). Hanoi once more became capital, but now of the French empire of Indochina (Boudarel & Nguyen 2002). Briefly occupied by Japan during World War II, Hanoi was finally reclaimed as the capital of the Democratic Republic of Vietnam (DRV) when the Japanese surrendered in 1945 (Duiker 2002).

But the conflict did not end there. With the French pushing to restore colonial rule, the Vietnamese launched a guerrilla struggle for independence (Duiker 2002). A ceasefire was reached in 1954, albeit one dividing Vietnam into a communist north and a non-communist south, and Hanoi once again became the capital of the DRV (Boudarel 2002a; Duiker 2002). As revolutionary leader Ho Chi Minh sought reunification, increasing civil unrest in the south in 1965 prompted US President Johnson to order B-52 raids on the north (Duiker 2002). A long and bloody war ensued, concluding in US withdrawal in 1975. After over 100 years of conflict, Hanoi – its old quarter relatively unscathed - became the capital of a reunified state: the Socialist Democratic Republic of Vietnam (Duiker 2002).

2.3. Vietnam Today: Politics and Economy

Vietnam is a one-party communist state, and following a century of conflict and political change, the Vietnamese are now largely depoliticised (Boudarel 2002b). In 1986, following an extended period of strict rationing, Vietnam launched a new policy of economic renovation (*Đổi Mới*). This liberalised the nation towards a multi-sector, socialist market economy, culminating in its admission to the World Trade Organisation (WTO) in 2007. Allowing private ownership and introducing market mechanisms represented a major shift from the previous fully subsidised and centrally planned system whereby the state provided everything from goods and services to jobs, housing and ideology (Nguyen 2004).

The results have been dramatic. The country has undergone exceptionally rapid economic growth, experiencing a rise of 6.9% in GDP per capita during 2006, and making it the third fastest growing developing economy in the world (World Bank 2007). What was an export income of USD6.6billion in 1986 has since exceeded USD73billion, with the United States and Japan providing the largest single-country markets for Vietnamese export products including coffee, rice, seafood and oil (Ashwill & Diep 2005; World Bank 2007). Vietnam has also become a major tourist destination, with the industry reported to have earned the country USD3.5billion in 2007 (Thanh Nien 2008).

These economic gains have been particularly impressive for urban residents and there is evidence of this growing affluence throughout Hanoi. For example, in 2002, the luxurious '*Trãng Tiền* Plaza' replaced the basic 'Hanoi State General Departmental Store' in the heart of the city, and not only has there been a marked increase in the luxury consumer goods available, but the ability to access these goods is being used to mark success (Thomas & Drummond 2003). In particular, a budding market of wealthy youth is eager to consume goods, but typically with a Vietnamese dimension (Thomas & Drummond 2003).

Although social transformation arising from the 'consumer revolution' has been well documented in urban China (e.g. Davis 2000b; Latham et al. 2006), similar trends in Vietnam have received less attention. Nevertheless, many of the patterns

documented in urban China resonate with those emerging in contemporary urban Vietnam. In China economic reform has seen greatly increased expenditure on goods and services and has permitted greater independence in terms of socialising (Davis 2000a; Latham 2006). While in the past feasting was restricted to those with political power, restaurants have proliferated and households are spending an increasing proportion of their budgets on eating out (Davis 2000a). Another common trend is for increasingly elaborate birthday celebrations including special meals and gift exchange (Davis & Sensenbrenner 2000).

Vietnam's prosperity has come at a cost. Building a market economy and simultaneously maintaining political control of national affairs has permitted widespread corruption and a broadening divide between rich and poor (London & McCargo 2000; Duiker 2002). Unemployment, drug misuse, prostitution and suicide have become more common (Duiker 2002; Thomas & Drummond). While the price of land in Hanoi is phenomenally high, the average monthly salary of a young person is disproportionately low, at around USD40 (Nguyen 2002b). There is also growing inequality: the Gini Coefficient for Vietnam increased from 0.34 in 1992 to 0.42 in 2001 (Weeks et al. 2004). The largest disparities are found in large urban areas, particularly Hanoi and Ho Chi Minh City, where some of the richest households in the country reside alongside others whose income is barely higher than in rural areas (Minot et al. 2003).

Renovation has served to liberate Vietnamese society in many areas (Boudarel & Nguyen 2002). But, despite a chief part of *Đổi Mới* being about encouraging intellectuals to highlight deficiencies in the system, the party maintains its belief that economic reform can only be achieved with political solidarity and has maintained a strong line against dissidents (Duiker 2002). While the government warrants praise for upholding stability (Boudarel 2002b), it now needs to decide whether short-term economic growth should be prioritised over broadening human liberty in the long-term (Duiker 2002). However it is likely the latter will be achieved through a gradual changes within the current system rather than from external pressure from society (Dixon 2004).

2.4. Culture and Philosophy

Despite centuries resisting Chinese rule, the Vietnamese adopted many aspects of Chinese culture, even assuming their socio-political system based on a strict interpretation of Confucian philosophy (Boudarel & Nguyen 2002). Although Buddhism remained important during the Ly Dynasty (1009-1225), evidence of the Confucian revival - which continued during the succeeding Tran Dynasty (1225-1400) - can still be seen in the Temple of Literature dedicated to Confucius in central Hanoi (Jamieson 1993). Neo-Confucianism became a truly dominant force in Vietnamese ideology following a further Chinese incursion by the Ming in the 15th century, then under the subsequent Le Dynasty (1428-1788). This was vigorously reinforced by the most recent Nguyen Dynasty aiming to make Neo-Confucianism the basis of Vietnamese culture, laying the foundations of culture and philosophy today (Jamieson 1993).

Over centuries, Taoism, Buddhism, and Confucianism became entwined and simplified to create a Vietnamese folk religion also incorporating relics of former animistic beliefs (Jamieson 1993). Today most Vietnamese identify themselves as Buddhist whilst also practicing ancestor worship (Matthews 1992; Pelzer 1992). There has been a recent surge in religious activity including a new phenomenon of mass, largely recreational, pilgrimages to temples and shrines, enabled by vastly increased mobility and greater religious freedom, and perhaps partly driven by a need to reinforce Vietnamese identity in a rapidly changing socio-economic climate (Soucy 2003; Taylor 2004).

At least in the north, more recent Western occupation led to juxtaposition rather than a fusion of cultures, leaving little imprint beyond French cuisine and architecture (Boudarel & Nguyen 2002). Likewise, modernisation is thought to have had a limited impact on daily life in Hanoi, with western influence perhaps most evident amongst the most privileged urbanites (Boudarel & Nguyen 2002). For example, rather than guests at banquets drinking rice wine, whisky is instead selected by wealthy individuals as a sign of distinction and contemporary knowledge (Nguyen 2002a).

2.4.1. Identity and 'Face'

Markus and Kityama (1991) outline independent and interdependent constructs of self. The former, dominant in Western cultures, is entrenched in the belief that individuals are discrete entities with the inner self foremost in regulating behaviour. The latter, dominant in East Asian cultures, is based on the basic belief that humans are interconnected and results in identity lying in familial, cultural, professional and social relationships. The centrality of social relationships and public perceptions to identity results in the Asian focus on 'face' whereby individuals are extremely concerned about others' perceptions of them and the preservation of their status (Wong & Ahuvia 1998). If an individual's personal preferences conflict with others' expectations of them, a strong individual is expected to withhold internal feelings in order to act in a way that facilitates relations and realises group goals (Wong & Ahuvia 1998).

The concept of face has Chinese origin, a literal translation of the Chinese terms *lien* – which "represents the confidence of society in the integrity of ego's moral character the loss of which makes it impossible for him to function properly within the community" - and *mien-tzu* – "a reputation achieved by getting on in life through success and ostentation" (Hu 1944: 45 in Ho 1976). While *mien-tzu* can be gained and lost, *lien* can only be lost because one is always expected to behave appropriately; one may lose face when behaviour is unacceptable or if the demands of one's social rank are not fulfilled (Ho 1976). Due to the reciprocal nature of social expectations, loss of face may not only occur when an individual fails to meet his/her responsibilities but also if others fail to conduct themselves according to his/her expectations of them, i.e. it is not only one's own actions but also treatment one receives from others that can cause loss of face (Ho 1976). Face is extremely important, meaning the desire to gain and save face is a powerful social force (Ho 1976).

2.5. Traditional Medicine: Philosophy and Practice

The Chinese and Indian Ayurvedic medical systems are the oldest continuous surviving medical traditions (Jewell 1983). The central concern of Chinese medicine is the *Dao* and the dynamic balance of the whole (Jewell 1983; Sivin

1987). Underlying many of the ideas in Chinese medicine, and Chinese traditional culture, are the theories of *chi*, *yin* and *yang* (Liu 2002). *Chi* is 'vital energy' or 'strength' while the poles of *yin* and *yang* are the most basic division of the cosmos in dynamic equilibrium: *yin* is feminine and 'cooling', *yang* is masculine, and 'heating' and health is the result of a dynamic balance between them (Jewell 1983; Sivin 1987). Illness is avoidable, and health and longevity possible, if harmony is sustained (Jewell 1983; Liu 2002). Prevention is therefore key. Food is necessary to maintain health and so it follows that a balanced diet is important for preserving harmony and restoring vital energy (Anderson & Anderson 1975).

As a result, since antiquity, the Chinese have been preoccupied with maintaining balance through the use of medicinal foods and tonics (Simoons 1991; Swanson 1996). This is also true of Vietnam where food is fundamental to health, and where tonics, medicines and food are used for both prevention and cure; in fact, tonics which have generally restorative and strengthening powers, rather than any curative purpose targeting the specific condition, comprise over half of Sino-Vietnamese *Materia Medica* (Craig 2002). Tonic consumption is often part of a daily routine for many Vietnamese men; the tonic is typically stored in a large glass jar filled with rice alcohol with a selection of expensive herbs and/or wild animals perceived as 'potent' (Craig 2002). For many men, a jar of tonic kept in a prominent and conspicuous place is a symbol of respect and identity, as well as preventative medicine (Craig 2002).

In Vietnam classical Chinese or 'northern' medicine (*thuóc bắc*) and the official state system are practised beside the more empirical grassroots 'southern' medicine (*thuóc năm*) (Hoang et al. 1993; Craig 2002). Northern medicine in Vietnam is a regional form of Chinese medicine that draws heavily from Chinese *Materia Medica* and philosophy (Craig 2002). The Vietnamese also distinguish traditional medicine from Western medicine (*thuóc tây*) (Craig 2002). Western medicines are considered fast acting and combative, but also temporary fixes with no durable outcome; they may cause further disorder and have harmful side effects, and so are considered toxic and 'hot'. Although often considered more convenient, scientific and 'modern' they are often also perceived to be addictive,

expensive and fake (Craig 2002). Traditional remedies, on the other hand, are viewed as 'cooling', natural, attuned to the body, nutritious, affordable, and are more widely trusted; they produce few side effects and work gradually, treating the whole and restoring long-term health (Craig 2002). Today it is estimated that three quarters of Vietnamese primarily use traditional medicine for common health problems (Nguyen & Nguyen 2008).

Talking about body and health, exercise, weight, appearance and vitality, and the giving and receiving of advice on food and medicine, are all major aspects of everyday conversation in Vietnam (Craig 2002). As in China, health, diet and the health properties of food frequently arise in daily conversation; dietary advice is regularly given in newspapers and advertising; and certain medicinal foods and remedies are preferred gifts to senior male acquaintances (Anderson 1988; Simoons 1991; Farquhar 2002; Lo & Barrett 2005). Moreover, rising living standards in the region have been associated with an increasing popularity of traditional medicine, particularly amongst urbanites (Farquhar 1994). This is demonstrated by all three of Hong Kong's universities recently introducing degrees in Traditional Chinese Medicine (Nooren & Claridge 2000), and by a survey of Hong Kong Chinese that found that a third of interviewees had used TCM and a fifth used it regularly (Lee et al. 1998).

2.5.1. Medicine, Food and Medicinal Food

Throughout Asia, food and medicine are famously difficult to disentangle (Craig 2002; Farquhar 2002). In TCM philosophy, medicine and food have four thermostatic properties - cold, cool, warm and hot - and five flavours - pungent, sweet, salty, sour and bitter (Jewell et al. 1983; Lo 2005). These properties determine the effects they have on the movements within the body, and which organ systems and symptoms are affected (Lo 2005). The properties and flavours of the medicines and foods selected depend on the season and also according to the needs of the individual determined by factors such as age, gender and physiological condition (Swanson 1996). Most Chinese react immediately to illness by changing their diet, and this nutritional therapy gradually shifts into herbal medicine with no real distinction made between each approach (Anderson 1997).

Although most diet therapy is based on the humoral dimensions outlined above, the concept of *pu* is also important (Anderson 1997). *Pu* foods make or strengthen *chi,* tend to be high in protein, and are often from animals that are striking in appearance (Anderson & Anderson 1975). In other words, there is an element of sympathetic medicine at work, with the ferocity or sexual prowess of an animal believed to be transferred to the consumer (Donovan 2004). Animals from the wild are often thought to have the most medically potent or strengthening meat because they eat naturally occurring foods and survive harsher conditions than domestic animals (Cotterel 1986; Anderson 1988). Nevertheless, rare foods are also partly considered *pu* due to their peculiarity and expense, and conspicuous consumption is an important driver of their consumption (Highley & Highley 1994; Anderson 1997).

Pu foods considered 'strengthening' are also the nearest thing to aphrodisiacs in TCM and because sexual performance is highly responsive to placebos TCM has had limited cause to separate the power of suggestion from active medicinal ingredients (Anderson 1997). In Vietnam the dining room is a typically male domain and sexual function is a popular theme of conversation, and an area in which the concepts of *yin* and *yang* are most commonly applied (Craig 2002). A 'strong' or 'hot' male is seen as having a stronger reproductive system and a greater chance of producing a male child; male virility is therefore associated with heat and Yang qualities and hence 'hot' foods and tonics that nourish *yang* are important (Craig 2002). In China, female anthropologist Farquhar (2002: 60) was refused certain meals because they were designed for the physiology of middle-aged men, to improve "functional masculinity". In a recent article, a traditional medicine practitioner advised a reporter that seahorses can aid blood circulation to reduce impotence and eating turtle meat can also enhance sexual pleasure (Thanh Nien 2007). Such concepts should not be considered unique to East Asia. For example, the Lele of West Africa hope to access the pangolin's fertility by consuming them (Douglas 1966) while, in the West, Fiddes (1992) suggests the macho steak is the most obvious expression of the concept that meat, and

particularly red meat, is a typically masculine food capable of sending strong sexual signals.

2.6. The Social Roles of Consumption

Much has been written about consumption as a means of communication (e.g. Douglas & Isherwood 1979; Appadurai & Appadurai 1986; Belk 1988). The literature focuses particularly on the consumption of food, its daily importance making it central to social discourse (e.g. Appadurai 1981; Goody 1982; Douglas 2003). It is also acknowledged that while food has long been richly symbolic and used as a means of communication in all cultures, this is especially the case in Asian cultures, and in China in particular (Manderson 1986; Swanson 1996). Anderson and Anderson (1977: 366) write:

> "Many a non-Chinese has come away from a meal cursing the "inscrutable" Chinese for saying nothing but bland, polite phrases, when the meal itself was the message, one perfectly clear to a Chinese. In short food management is critical to all harmony – in one's own body, in one's social life, and in one's interactions with the world."

Food tells us not only how people live but also the way in which they define themselves and others, reflecting our daily lives, ideas, aspirations and interpretations of the food eaten by those with whom we want to identify (Fiddes 1992). Sharing food is a particularly symbolic means of sharing group identity because it so visibly integrated into self (Belk 1988). In China the style, splendour or simplicity in the preparation and presentation of food, the act of eating and the presence or absence of others during a meal, the expression of ideas and knowledge regarding the consumption of certain foods at certain times and in combinations with certain others, may all give clues as to an individual's roles, affiliations, age, gender, class, ethnicity and status in society (Manderson 1986). For these reasons, even when people do not associate medicinal benefits with, or dislike consuming, certain foods, they may continue to eat such foods to maintain group identity as well as in order not to offend others (Swanson 1996).

Such discrimination is particularly important in highly hierarchical societies where diet and knowledge about food varies with income and access, and reinforcing a place in the social hierarchy may involve conspicuous consumption of good

quality, expensive, or novelty foods (Anderson 1988). Douglas and Isherwood (1979: 44) argue that the more discrete ranks in a society, the more types of food will be needed. Certainly, both Vietnam and China are famed for their extraordinarily diverse cuisine. In Vietnam, for example, there are different dishes and drinks that correspond to sex, age and almost any time of the day and season (Nguyen 2002a).

As well as projecting self-image, feasting and eating out can also serve to transform informal sociability into important economic and political networks (Davis 2000a), central to forming and structuring socio-political alliances (Hayden 2003). In China, celebrations invariably involve feasting (Hsu & Hsu 1977). Business and other important affairs are typically discussed over a formal meals in restaurants, while families may also dine in restaurants on special occasions such as reunions (Anderson et al. 1977; Donovan 2004). The types of food served at these important food exchanges signifies both the importance of the occasion and the guests, and the gratitude of the host (Cotterel 1986): the more important the event, the better and the wider the range of food must be (Anderson et al. 1977; Manderson 1986; Simoons 1991). Throughout Southeast Asia feasts also communicate status and prestige and guests should be left feeling both "impressed and indebted" (Donovan 2004: 95).

Van der Veen (2003: 414) summarises feast types after Dietler (1990; 1996): 'celebratory' feasts strengthen social relationships between individuals of similar social status, or those of varying social status on occasions with no competitive dimension; 'entrepreneurial' feasts raise the prestige of the host and oblige the guests to reciprocate, enabling the host to gain social or economic advantage; 'patron-role' feasts assert existing differences in status and authority but guests are not obliged to reciprocate equally; 'diacritical' feasts accent differences in social standing, particularly emphasising exclusivity. The first three types of feasts convert economic capital into symbolic capital - i.e. "the acquisition of a reputation for competence and an image of respectability and honourability that are easily converted into political positions" (Bourdieu 1984) - while the latter type converts economic capital into cultural capital (van der Veen 2003).

2.6.1. Prestige Foods

Although the term 'prestige food' is widely used, there is no agreed definition. It is also important to note that foods are not intrinsically symbolic or prestigious, they are simply used to symbolise, i.e. they are the medium through which prestige or status is communicated (Fiddes 1992). Jelliffe (1967: 279-80) writes:

> "All cultures have prestige foods, which are mainly reserved for important occasions or, even more, for the illustrious of the community. Examination suggests that, even in vegetarian societies, these are usually protein, frequently of animal origin. They are usually difficult to obtain, so that they are expensive and relatively rare. In the western world they may have been hunted wild, as opposed to domesticated, or imported from distant regions. Lastly, and of much significance, they may quite often have been long associated with the dominant socio-historical group, as for example with 'game' in western Europe"

Similarly, Hayden (1996) describes feast foods as the rarest and most labour-intensive in production or preparation (in Van der Veen 2003). It is perhaps also relevant to note that Levi-Strauss (1966 in Fiddes 1992) argued roasting was the most esteemed method of cooking meat in many societies because it incurred most waste. Likewise, Chang (1977) notes the profligate waste of banquets hosted by the royal imperial court in China. Indeed, Fiddes (1992) suggests meat is valued *because* it is expensive in terms of production and the environment rather than *despite* it. Similarly, it is possible rare wild animals are valued *because* of the environmental cost of consuming them.

Jelliffe (1967) also relates the prestige value of animal meat to its association with historically dominant social groups. In China, as well as Europe, hunting parks have historically restricted access to valued wild animals to the elites (Schafer 1968). Fiddes (1992) argues hunting wild game being an activity largely restricted to the privileged and powerful is consistent with the importance of meat as a 'natural symbol' of domination over human and natural resources.

Important food exchanges and banquets in China are said to typically to involve 'prestige foods' rather than those eaten everyday (Anderson et al. 1977; Manderson 1986; Simoons 1991). Marco Polo observed the meat of larger animals being consumed by the wealthy upper classes in China (Goody 1982), while

Anderson et al. (1977: 373) note Chinese prestige foods including shark fin soup, bear paw and bird's nest soup, and are all of animal origin; they continue:

> "Many of the famous oddities of Chinese cuisine, like those just named, were used, not for their taste or curiosity value, but for their status-marking and occasion-marking functions. Because they are rare and expensive and conspicuous they carry the message: This is not just an ordinary feast; we have done something truly special. Of course, the higher the status of the host and the more special the occasion, the higher the rank of foods served; rank is pretty well determined by price".

2.6.2. Contemporary Urban Consumption Trends

Although argued by some to be obsolete with regards to contemporary consumption (e.g. Abramson & Inglehart 1995 in Wong & Ahuvia 1998), the term 'conspicuous consumption' is nevertheless used to describe current consumption behaviour both in the West (e.g. Bourdieu 1984: 34) and in East Asia (e.g. Davis 2000a: 16; Latham 2006: 2). In fact, due to the importance of face, Wong & Ahuvia (1998) argue visible public consumption is more important for Southeast Asian than Western consumers, making them more likely to focus on goods with high symbolic value. Certainly, Hanoians have been noted in particular to be extremely status-conscious (Fforde 2003; Matthaes 2006) while, in China's cities, conspicuous consumption is manifest (Harris 2006). It may be unsurprising then that East Asian countries are now important markets for highly luxurious goods (Wong & Ahuvia 1998; Davis 2000a).

Furthermore, Wong and Ahuvia (1998: 432) argue, because East Asian societies are highly hierarchical and rank is primarily determined by economic advancement, East Asian consumers are more likely to use goods to symbolically assert status. While it may seem inappropriate to apply this argument to an emerging socialist economy and culture inclined to Confucian humility, evidence of increasing individualism and a focus on economic attainment is emerging in Vietnam. For example, in place of politics, young people in Hanoi are said to now have a value system based on wealth (Boudarel & Nguyen 2002: 6). Individualistic goals focusing on educational attainment and economic status have also become increasingly common (Davis & Sensenbrenner 2000; Nguyen 2004).

Concurrently, Wong and Ahuvia (1998: 437) highlight that, in contrast to consumers in individualistic societies, conspicuous consumption by those with an interdependent self-concepts may not reflect personal preferences or goals but rather the value they place on conforming to social norms in a "materially-focused, family-oriented, and hierarchical culture". Those with interdependent self-concepts integrate other group members into their identity, meaning they are not acting independently but as a group representative. Amongst these consumers, owning luxury goods is therefore not viewed as a self-centred focus on personal wealth but rather demonstrates one's social virtues in satisfying familial duties (Wong & Ahuvia 1998).

Greater freedom in sociability in China, permitted by the reduction in state control over the flow of commodities, has led to a shift from vertical relationships between subjects and state officials towards more horizontal networks of informal social relations (Davis 2000a: 3). Wang (2000) highlights the importance of luxury services and goods in terms of building such socio-political relationships: in 1990s urban China, when dance halls and McDonalds were widely accessible and therefore epitomised mass culture, bowling was prohibitively expensive, but rather than use this expense to exclude others, those who could afford to consciously and strategically used their ability to play host, so as to advance their careers and gain 'protection' from state officials (Wang 2000). Government bureaucrats retain the power to influence commercial pursuits and hosting expensive leisure activities is an ideal method of building personal networks and making those in power sympathetic to one's needs (Li et al. 2000). In this way state officers enjoyed luxury goods and services in line with their authority but often beyond their personal incomes (Davis 2000a). Moreover, luxury goods - having great symbolic value - are highly appropriate for gift giving, encoding esteem for the recipient and also bringing honour to the giver by displaying the ability to afford such a gift (Wong & Ahuvia 1998). While on the surface such exchanges may appear friendly, individuals often offer gifts to superiors under, as a minimum, unspoken force (Stafford 2006).

2.7. Summary

In addition to being one of the most densely populated countries in the world, Vietnam is also one of the most bio-diverse. Following a turbulent century of conflict, political upheaval and poverty, Vietnam entered the twenty-first century with one of the most rapidly growing emerging economies in the world and became a member of the WTO in 2007. Growing affluence in urban centres has led to increasing expenditure on goods and services, including eating out at restaurants. There is a thriving market for luxury commodities being used to mark success. Neo-Confucianism forms the foundation of Vietnamese culture and philosophy today. Chinese in origin, the concept of face is extremely important in Vietnamese society and Hanoians in particular are said to be highly status-conscious. Due to the hierarchical, collective nature of many East Asian societies, it is argued that East Asian consumers focus on goods with high symbolic value, and are more likely than Western consumers to conform to social norms.

Traditional Chinese medicinal beliefs also form the basis of Vietnamese medicinal philosophy and practice. Illness is considered avoidable as long as harmony is maintained through the use of medicinal foods and tonics. Food is fundamental to health and restorative and strength-giving tonics and food are widely used for both prevention and cure. Foods that make or strengthen *chi* tend to be high in protein and from animals striking in appearance; wild animals are thought to produce the most strengthening meat and medicinal products. Food, and eating food, is also highly symbolic and a means of communication in all cultures, but especially in Asian cultures, and in China in particular. 'Prestige foods' are foods through which prestige is conveyed and tend to be rare and of animal origin. Conspicuous consumption is thought to be a major part of the consumption of rare foods believed to reinforce *chi*.

3. Methods

3.1. Research Permission

There is no formal system of obtaining research permission in Vietnam. Instead researchers must align themselves with relevant non-governmental organisations and/or educational institutions that already have official permission to work in the area in question. Having approached several relevant university departments - and found all welcoming but none willing to support research specifically into the consumption of wild animals - I began approaching non-governmental organisations (NGOs). The Wildlife Conservation Society (WCS) was very supportive, and here, along with local NGO, Education for Nature Vietnam (ENV), I received the help I needed to get the pilot study underway. Both organisations agreed to support the work in the form of endorsement, if and when needed.

3.2. Fieldwork Schedule

Data were collected during a single field season from May 2006 to August 2007. The first three months were dedicated to language training and making contact with relevant university departments and NGOs. During the following four months I concentrated on focusing the research and piloting research methods before finally returning to the UK to upgrade in December 2006. January 2007 was spent carrying out further trials, and recruiting and training staff before launching the questionnaire survey in February and the semi-structured interviews in March.

3.3. Working in Hanoi

Wildlife consumption is particularly prevalent in urban areas where growing numbers of consumers with disposable income are contributing to rising demand for wildlife-derived products. Hanoi is also a central node for wildlife trade traversing Vietnam and wildlife consumption, as well as the political, administrative and educational centre. As such, this study focuses on the rapidly developing capital of Hanoi where consumers contributing to expanding domestic wildlife markets are concentrated and where informants key to the research can be accessed easily.

The quality of data is influenced by the ways those collecting the data are perceived by those being interviewed (Bernard 1995). So despite the overwhelming size of the city, I made every effort to engage with the Hanoian community. I began my time in Hanoi living with a family and then used my fledgling language skills to find a rented flat in Hanoi advertised in a Vietnamese newspaper in a Vietnamese area[5]. Landlords need official permission to rent to foreigners so finding such a flat was fortunate but as it turned out not entirely legitimate. Inevitably, after eight months I was given notice and duly became one of many foreigners in a purpose-built block.

I invested considerably in language training both in London and on my arrival in Hanoi. Initially I found that this was largely useless: it was five or six months until I became sufficiently adept at differentiating between the language's six tones in order to be able to begin to apply what I had learnt, and I regret that by that point the research had become too time-consuming to resume Vietnamese classes. Nevertheless, though unable to conduct interviews myself, I was able to hold basic conversations and this I believe went some way in gaining the trust of those who participated in the research.

Given the role of the researchers on the data obtained and the way it is interpreted, it is also important to note here my own positionality in this research. I am a conservationist with a background in zoology and, more recently, in anthropology and the human ecology of development. I am not opposed to extractive use of wild species on either ethical or moral grounds - indeed I believe direct use of wild species can contribute to successful conservation when management is well-informed and tailored to individual species and systems - but rather aim to ensure levels of extraction are kept within biologically sustainable limits.

3.4. Quantitative Methods

Quantitative methods such as structured surveys comprising mainly of closed questions have the advantage of simplifying and speeding up questionnaire completion and analysis. They are convenient and able to cover a large sample in a

[5] The majority of foreigners in Hanoi live in an area north of the city called *Tây Hồ* or West Lake.

limited time frame, and due to the large size of the study population, I felt a structured questionnaire survey was necessary to obtain a sufficiently large sample size to answer questions about the scale of wild animal consumption, the characteristics of consumers and the context of consumption events.

Standardised questionnaires have been criticised for being artificial and contrived, and lacking the sensitivity to explore difference, inconsistency or meaning (Burton 2000). Cicourel (2004) argues that closed-question questionnaires create 'grids' through which our understanding of social process becomes distorted because they are hypothetical situations reflecting the perspective of the researcher. Rather than producing knowledge about reality, some argue that questionnaires instead produce a reflection of the ideology of the researcher, the acceptance of which advances particular interests (De Vaus 1996). There is also a danger that the validity of numerical data resulting from questionnaire surveys is treated as a given and in-built bias neglected in analysis (Hammersley & Gomm 1997).

Nevertheless, questionnaires are valuable if carefully designed, appropriately applied, sufficiently piloted, and where their inherent weaknesses are considered in analysis (De Vaus 1996; Burton 2000). The extent to which questionnaires generate good measures depends on question reliability and consistency in approach (Burton 2000). Therefore, to minimise the effects mentioned above and to help interpret survey results, it is essential that questionnaires are meticulously designed and rigorously piloted, and used in conjunction with more qualitative methods. For example, questions must be well tested so that the response categories reflect responses provided; options should be mutually exclusive and exhaustive, with space for qualification in the case that, despite testing, answers are forced into a category where they do not belong (Moser & Kalton 2004).

The questionnaire was developed over a three-month period during which a series of trials was completed. The final questionnaire comprised of almost entirely closed questions including a series of attitude scales; questions regarding wild animal product consumption; a measure of general scientific knowledge of wild animals and of awareness of conservation-related information; items investigating

interactions with wild animals including the consumption of wild meat and other wild animal-derived products; media access and recollection of any wildlife-related information; and respondent characteristics (Appendices A and B). Because of its reported dominance in domestic consumption (Nguyen 2003; Venkataraman 2007), respondents were asked to give details of any wild meat consumption prior to being asked to report on the consumption of any wild animal products besides wild meat (further details are given in Chapter 4). The questionnaire went through several stages of translation and back-translation by two independent translators to ensure no loss of the meaning and the use of every-day, accurate and familiar Vietnamese phrasing.

Questionnaires can be completed face-to-face with interviewers or self-completed as a postal or hand-delivered survey. Face-to-face approaches have many advantages. They give scope for the interviewer to probe, clarify, use visual cues and to create rapport and trust, allowing them to ask more sensitive questions. This also encourages the respondent to participate and complete the questionnaire, resulting in higher completion rates and enabling the use of a longer and more complex questions (Oppenheim 1992; Burton 2000). By comparison, self-completion questionnaires, although avoiding interviewer bias and being less costly and time consuming, are vulnerable to a high level of non-response, lack opportunity for clarification precluding the inclusion of complex questions, and need to be kept short so as not to lose respondents' interest. Due to the sensitivity and complexity of some topics in this study, and in order to limit non-response and enable a longer questionnaire, all methods were completed face-to-face.

3.4.1. Researching Wildlife-Related Knowledge and Awareness

Many researchers have attempted to measure environmental knowledge. Some studies ask respondents to estimate their own level of knowledge on a given subject (e.g. Mostafa 2006), but are criticised for lacking objectivity. Others measure environmental knowledge using multiple-choice questions (e.g. Chan 1999) or factual statements with true or false options (e.g. Kellert 1991a), and are criticised because even experts sometimes disagree on the correct response. And yet others assess knowledge based on responses to open-ended questions which

are later coded (e.g. Arcury & Christianson 1993); although this method enables the respondent to demonstrate their knowledge in their own words, it is subject to coder bias and limited by the eloquence of the respondent.

Because issues related to wildlife conservation are often complex and subject to debate, this study initially attempted to measure wildlife-related knowledge and awareness using the latter method. However, a pilot study with the central Hanoi public (n=40) demonstrated that the detail and length of responses were heavily influenced by the respondent's enthusiasm and their environment: some respondents had many distractions while others had none, and some were put under pressure or assisted by others around them. Unbiased post-hoc recording also proved difficult and the information recorded was open to further bias from the Research Assistants (RAs) who recorded, and later translated, the responses. For this reason, a series of multiple-choice and true and false questions were considered more appropriate for the questionnaire survey. As well as reducing coder bias, respondents could self-complete these questions at their own pace, rather than discuss them aloud, reducing the likelihood of assistance or pressure from those around them.

This method assumes that wildlife-related knowledge and awareness is quantifiable on a linear scale. Moreover, although care was taken to develop and test as constructive and relevant a measure of wildlife-related knowledge, the measure was designed from Western perspective; as such it is embedded in western scientific and cultural concepts and may not adequately capture alternative knowledge bases that might be considered constructive in forming wildlife-related attitudes and behaviour by others. To explore awareness and knowledge of wildlife-related issues in more depth and to triangulate quantitative results, this is also explored in SSIs.

A large pool of seventy true or false items and multiple-choice questions was created. These were translated into Vietnamese and back translated to ensure no loss or distortion of meaning. Questions focused on national fauna and excluded ambiguous items focusing only on statements that are widely considered fact.

These items were then distributed to Vietnamese respondents (n=35) including NGO staff, students and the general public. These respondents were asked to answer each item and also to rank items in terms of their difficulty along a Likert scale of one to five from 'very easy' to 'very difficult'; items consistently ranked and which successfully differentiated between respondents were then used to construct a final measure (Appendices A and B). These were then piloted within the questionnaire (n=40).

There is some debate over whether to include a 'don't know' option as a response in a true or false scale. Some argue (e.g. Mondak & Anderson 2003) that it should be excluded on the grounds that respondents vary in their propensity to guess: some respondents will be more cautious than others and if you exclude 'don't know' you force these make a guess based on their background knowledge; on the other hand, by excluding the 'don't know' option there is the risk that a respondent who is genuinely ignorant on the subject in question may score highly based purely on guess. However, a study investigating this idea concluded that respondents fared similarly whether given the 'don't know' option or not and advised continuing with the standard format including the 'don't know' option (Sturgis et al. 2006).

For true and false and open-ended questions, respondents scored one point for a correct answer and zero points for an incorrect answer, a 'don't know' response, or for failing to respond. For multiple-choice questions with one correct option, respondents scored one point for choosing the correct option only and zero points for selecting any other. For multiple-choice questions for which there were up to four correct options, respondents received half a point for each option correctly selected up to a maximum of two points. If the respondent failed to respond to more than three questions then their total score was recorded as 'missing'. Respondents self-completed the measure: only if requested would RAs read the questions aloud and record spoken responses on behalf of respondents.

3.4.2. Researching Attitudes

The matter of defining and studying attitudes is difficult and has long been debated by social psychologists (Oppenheim 1992). Highlighting this complexity, Oppenheim (1992) defines an attitude as "a state of readiness, a tendency to respond in a certain manner when confronted with a certain stimuli" forming part of a broader amalgam of values, beliefs and feelings themselves comprised of multiple parts. Attitudes have been defined in various ways, but a common theme is that attitudes are "evaluations or feeling states about an attitude object", and because attitudes are multi-faceted, it follows that any tool aiming to measure an attitude should comprise multiple items, each measuring a different facet of the overall attitude towards the object in question (Browne-Nunez & Jonker 2008: 57).

Multi-item attitude scales have been used to measure attitudes towards wildlife and wildlife conservation in East Asia (e.g. Kellert 1991a), Africa (e.g. Gillingham 1998; Infield & Namara 2001), North America and Europe (Kellert 1993a); Traditional Chinese and Western Medicine in Hong Kong (Chan et al. 2003) and green purchases in China (Chan 2001). Nevertheless, in a review of attitude surveys conducted in Africa, Browne-Nunez and Jonker (2008) report many researchers do not adequately define the attitude concept, and fail to pre-test attitude measures, test internal reliability of scales, or discuss the theory behind their choice of methods, meaning the validity of their findings is questionable.

Contingent Evaluation Methods (CEM) have also been used to study attitudes to wildlife conservation in various countries including Sri Lanka (Bandara & Tisdell 2003), the UK (White et al. 2001) and the USA (Kotchen & Reiling 2000). CEM asks respondents to place a value, or a series of values, on an object, and this value is then used as a measure of their attitude towards it. Bandara and Tisdell (2002) argue this technique allows the respondent greater expression regarding a specific conservation concern. But the derived values CEM uses are criticised for replicating assumptions of neoclassical economics including an anthropocentric view of natural resources (Pate & Loomis 1997). CEM values are also contingent on the amount of information the respondent brings to the survey and the information brought by the survey itself, and respondents may not be aware, or

understand all the functions, of the resources in question (Pate & Loomis 1997). CEM is also criticised for remaining one-dimensional despite researchers' efforts to incorporate broader societal values.

Attitude surveys are a practical way of covering a larger sample and hence better representing a large population, such as that in Hanoi, and enable rigorous statistical analysis. So with careful design, pre-testing and reliability analysis, multi-item attitude scales were considered an appropriate method for measuring Hanoian attitudes to wild animals, but only alongside semi-structured interviews exploring attitudes in more depth.

Kellert's (1996) approach to assessing the ways in which humans value wildlife, though based on industrial society, are a recognised standard for this area of social investigation (Rose 2001) and have been used to study attitudes towards nature and animals in the U.S.A, Germany and Japan (Kellert 1991b; 1993a) and have also been adapted to study attitudes in Botswana (Mordi 1987 in Browne-Nunez & Jonker 2008). Although this typology was not created for Vietnamese, many conservation awareness campaigns targeting Hanoians are currently designed by Western organisations (e.g. World Wildlife Fund, Wildlife At Risk), so comparing Hanoian attitudes to those identified in Western countries was considered a suitable starting point for a topic that has been little explored in Vietnam (see Chapter 8 for further discussion). Attitude orientations for this research were therefore adapted from attitude orientations and scales developed by Kellert and Clark (1980; Table 3.1).

Seven scales based on the typology developed by Kellert and Clark (1980) were used in the questionnaire (Aesthetic, Dominionistic, Ecologistic, Moralistic, Naturalistic, Utilitarian-Consumption, Utilitarian-Habitat). A further two scales measured attitudes towards conservation, defined as a primary concern for the conservation of wild species in the their natural habitats, and to wild meat consumption, defined as a primary interest in the consumption of wild animals as meat. Each attitude scale comprised a series of five interrelated items designed to measure a single underlying construct or attitude orientation; the items for each

scale were mixed and for each item respondents were asked to select one option from a Likert scale of one to five from 'strongly agree' to 'strongly disagree' (Appendix A). Aiming for the highest level of understanding among respondents, the scales were designed to be as relevant to, and straightforward for, Hanoian respondents as possible. For example, each item contained a single object and used examples rather than abstract concepts. Care was also taken to ensure that individual items were not leading.

Table 3.1. Basic wildlife values (Kellert 1993b).

Attitude Orientation	Definition
Aesthetic	Primary interest in the physical attractiveness and symbolic characteristics of animals.
Dominionistic	Primary interest in the mastery and control of animals, typically in sporting situations.
Ecologistic	Primary concern for the environment as a system, and for interrelationships between wildlife species and natural habitats.
Humanistic	Primary interest in and strong affection for individual animals such as pets or large wild animals with strong anthropomorphic associations.
Moralistic	Primary concern for the right and wrong treatment of animals, with strong ethical opposition to presumed ethical exploitation or cruelty toward animals.
Naturalistic	Primary focus an interest and affection for wildlife and the outdoors.
Negativistic	Primary orientation an active avoidance of animals due to dislike or fear.
Neutralistic	Primary concern a passive avoidance of animals due to lack of interest.
Scientistic	Primary interest in the physical attributes and biological functioning of animals.
Theistic	Primary orientation a fatalistic belief in wildlife as controlled by external deities of non-natural forces.
Utilitarian-consumption	Primary interest in the practical value of animals.
Utilitarian-habitat	Primary interest in the practical value of habitat associated with wild animals.

The first generation of scales was circulated around local experts and colleagues for comment. Based on discussion with respondents from the central Hanoi public during the trial of the questionnaire (n=40), the attitude orientations being measured and the items used to measure them were then finalised. Two generations of attitude scales were then piloted with two independent samples of the central Hanoi public (n=40) to ensure the scales were reliable. Reliability was tested using Cronbach's Alpha which gauges consistency among individual items in a scale by measuring how well each item correlates with the sum of the remaining items. Scales should ideally have a Cronbach Alpha of 0.7 or above to be considered reliable; the results from the second pilot study are shown in Table 3.2.

Table 3.2. Results of Reliability Analyses for second pilot study (n=40)

Attitude Scale	Cronbach Alpha
Aesthetic	0.696
Dominionistic	0.805
Ecologistic	0.707
Moralistic	0.698
Naturalistic	0.684
Utilitarian-Consumption	0.762
Utilitarian-Habitat	0.758
Wild Meat Consumption	0.770
Wildlife Conservation	0.760

During trials, respondents were asked to self-complete the attitude scales but some asked the RA to read each item aloud and to record their response. The involvement of the RA on these occasions ensured respondents fully understood each item, and allowed respondents to ask for clarification. This method also proved highly valuable in that these respondents were forward in discussing their choices and the contents of the items, giving a deeper insight into respondents' opinions and the knowledge and perceptions these were built on. As such, despite being more time-consuming, all attitude scales were completed from then on with the RA who recorded any comments made by each respondent alongside the relevant item.

3.4.3. Completing the Questionnaire

Two full-time RAs were employed to complete the questionnaire survey. These were recruited by advertising on an online NGO network and hired following face-to-face interviews. Both were women in their early twenties who had recently graduated from university and were completing masters degrees part-time, had some previous experience in surveying and were competent in spoken and written English; both also had a genuine interest in the environment and hoped to go on to work in conservation. When one assistant left her contract three weeks early, a third young female undergraduate who had previously completed surveys as a volunteer at an environmental NGO was employed in her place. All three assistants received two days of desk training before completing five days of supervised trial, and received further training and support as needed throughout the data collection period.

Both assistants worked independently but in the same area from 8am to 4pm each weekday with an hour's lunch break; they often took this break later than the average Hanoian in order to keep appointments with those working office hours. I accompanied the interviewers on two days each week and my presence was recorded on all questionnaires completed at this time. All parts of the questionnaire were completed with the assistant except for those in the wildlife-related knowledge and awareness scale which were self-completed under the interviewer's supervision; on rare occasions the respondent requested that the assistant read out the questions and record the respondents' answers on their behalf. Questionnaires typically took between twenty and thirty minutes to complete and each interviewer was usually able to complete between five and six each day. Any additional comments made by the respondent were recorded by the interviewers in Vietnamese and translated into English later the same day.

3.4.4. Sampling Method

Hanoi comprises four central districts and nine outer districts covering an area of 193.7km^2 and which are home to an 'average' population of 1.93m people, according to the most recent data (General Statistics Office of Vietnam 2006); data at ward and commune level were not available. In order to make it more manageable, the sample was restricted to the four central districts of Hanoi, containing 56% of the total average population in approximately a quarter of the total area of Hanoi: 1,076,850 people across 49.6km^2 (General Statistics Office of Vietnam 2006).

To obtain a sample as representative of the central Hanoi population as possible, a sample proportional to population size was taken to form a sample representative of each of the districts surveyed (Table 3.3). Within each of the four districts, questionnaires were then completed along a series of pre-determined transects along which every third house, business or street seller (from now on referred to as 'response unit') was approached. RAs were, however, advised to avoid police stations and other official buildings. Within the response unit (RU), respondents were then chosen based on pre-determined characteristics of gender and age on a

rotational basis (Appendix B). This both determined who was interviewed in each response unit and served to weight the sample according to the age and gender of the sample population[6]. If a respondent of the required age and sex did not reside or work in the selected RU, the RA proceeded a further three RUs until a respondent fitting the required description was found. However, if a respondent fitting the description lived or worked at the selected RU but was not present at the time of calling then, where possible, an appointment was made to return at a convenient time to complete the questionnaire. In reality, however, it was not always possible for the interviewers to make appointments after 6pm since both attended classes most evenings; in an effort to compensate for any respondents who had been excluded the RAs worked for six weekends during June and July in place of two weekdays.

Table 3.3 Number of transects and the percentage of total questionnaires (n=915) completed in each central district as related to the population (General Statistics Office of Vietnam 2006)

District	Population	Population (%)	Questionnaires completed (%)	Transects
Ba Dinh	226,200	21.0	21.4	4
Dong Da	366,250	34.0	32.9	7
Hai Ba Trung	306,100	28.4	30.9	9
Hoan Kiem	178,300	16.6	14.6	5
Total	1,076,850	100.0	100.0	25

3.4.5. The Sample Population

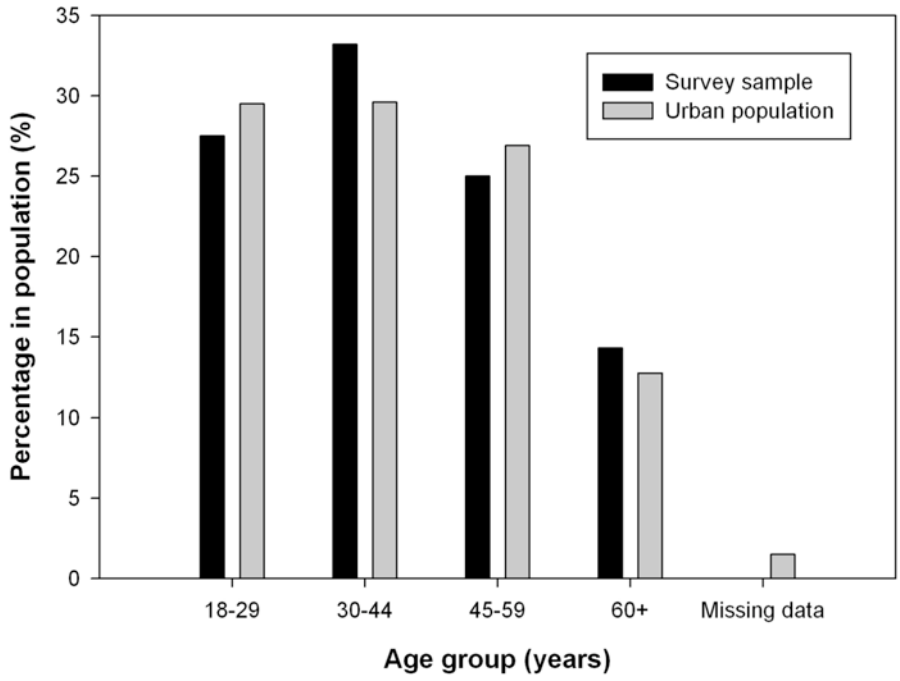
A survey of less than a thousand is limited in its ability to explore variations within a population (Hedges 2004); so while all quantitative findings are supported by qualitative data from SSIs throughout the thesis, this should be borne in mind. Approximately half of those approached refused to complete the questionnaire; although there are no significant differences in refusal rates between age groups, gender, RA or month completed, this high rate of non-responses will almost certainly have introduced bias into the sample population. Moreover, those collecting data will each have been perceived differently, asserting varying

[6] Data for the urban population in Vietnam indicates that the age groups 18-29, 30-44 and 45-59 occur in roughly equal proportions, while the over sixty age group is approximately half the size of these other groups (Ministry of Labour 2006). For this reason, for every two respondents interviewed in each of the younger age groups, only one was sought in the over sixty age group. Equal numbers of male and female respondents were sought and achieved for each age group since data indicated that the genders were equally represented in the urban population across all ages (Ministry of Labour 2006). See Appendix C for analysis of the sample population.

influences on the resulting data; the effect of the RAs on quantitative results is explored fully in Appendix C.

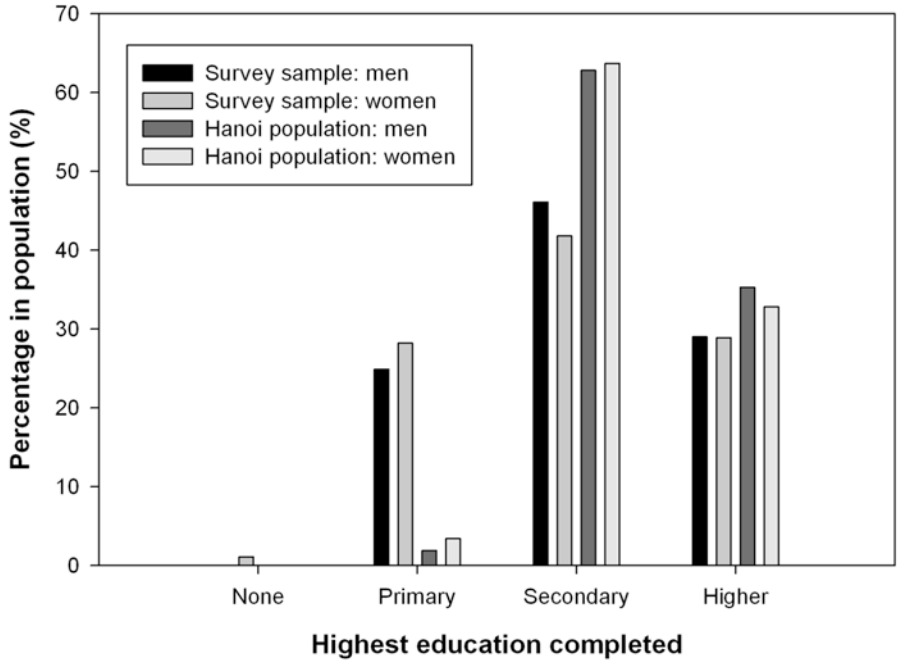
Here the sample population is compared to available census data and multiple linear regression is used to explore differences found between them (Table 3.4, p. 68). Unsurprisingly given the sampling method the age (Figure 3.1) and gender distribution of the sample population mirrored official statistics: 49.8% of respondents were male and 48.7% female[7] compared to the even 50.0% divide of the Vietnamese urban population (Ministry of Labour 2006). Comparison with data from the General Office of Statistics (2005) suggests the survey accessed lower than representative proportions of respondents having completed secondary and higher education and much higher than representative samples of those having completed primary education only (Figure 3.2).

Figure 3.1 Age distribution of the urban population in Vietnam (Ministry of Labour 2006) and of the final sample of the questionnaire survey (n=915):



[7] Gender data is missing for 1.5% (n=13) of respondents.

Figure 3.2 Educational attainment of the survey sample (n=915) compared to data from the General Office of Statistics (2005) for Hanoi Province:



Occupation accounts for 28% of variation found in educational attainment (Table 3.4). Those with lower levels of education are significantly more likely to work in unskilled occupations ($p<.01$) compared to service workers while students, ($p<.01$), finance ($p<.01$) and non-finance professionals ($p<.01$), businesspeople ($p<.01$) and those working in the armed forces and police ($p<.05$) are significantly more likely to have achieved higher education than those in services. Personal income is also correlated with educational attainment (Table 3.4): those for whom income data is missing ($p<.05$), those in the lowest ($p<.01$) and the second-lowest ($p<.01$) income quartiles achieved a lower level of education than those in the highest. It is not surprising to find that occupation and personal income are related to educational attainment in this way.

However, compared to DHS (2005) data, the sample includes a disproportionately high proportion of those having completed a relatively low level of education. Because occupation and personal income are both positively correlated with educational attainment and the sample, this suggests that not only are those with higher educational attainment under-represented in the survey sample but that those in occupations and income groups associated with higher educational levels

Table 3.4 Linear regression showing the role of respondent characteristics on highest education completed[8]

Predictor variables		Step 1			Step 2		
		B (SE)	β	Sig.	B (SE)	β	Sig.
(Constant)		3.95 (0.05)		.00**	4.24 (0.07)		.00**
Occupation (reference category: service workers)	Armed forces/police	1.56 (0.45)	0.10	.00**	1.38 (0.44)	0.09	.00**
	Business	0.99 (0.17)	0.18	.00**	0.81 (0.17)	0.14	.00**
	Clerks	1.32 (0.24)	0.16	.00**	1.30 (0.23)	0.16	.00**
	Skilled	-0.12 (0.09)	-0.04	.19	-0.17 (0.09)	-0.06	.06
	Unskilled	-.077 (0.13)	-0.17	.00**	-0.59 (0.13)	-0.13	.00**
	Unemployed	0.26 (0.24)	0.03	.28	0.50 (0.24)	0.06	.04*
	Student	0.89 (0.17)	0.15	.00**	1.08 (0.17)	0.18	.00**
	Housework	0.10 (0.19)	0.02	.61	0.34 (0.19)	0.05	.07
	Retired	0.01 (0.09)	0.01	.87	0.09 (0.09)	0.03	.29
	Non-finance professionals	1.67 (0.14)	0.34	.00**	1.62 (0.14)	0.33	.00**
	Finance professionals	1.54 (0.19)	0.24	.00**	1.39 (0.18)	0.22	.00**
Personal Income (reference category: highest quartile)	Missing data				-0.30 (0.11)	-0.09	.01*
	Lowest quartile				-0.68 (0.10)	-0.27	.00**
	Second-lowest quartile				-0.38 (0.09)	-0.16	.00**
	Second-highest Quartile				-0.15 (0.10)	-0.05	.12

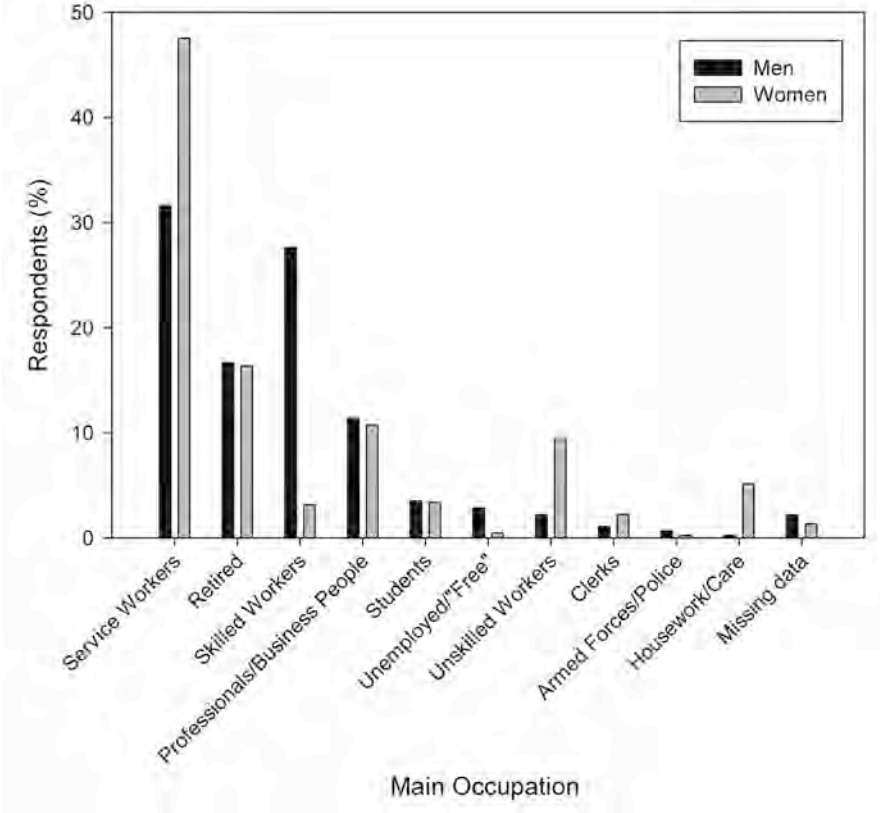
Model: R^2 = .28 for Step 1; ΔR^2 =.04 for Step 2 (F = 28.36, p <.000). **p<.01, *p<.05

[8] To avoid singularities arising from insufficient samples in some occupation groups, education is treated here as continuous, as opposed to categorical, for multivariate analysis; because education was numbered in a scale in the questionnaire respondents, its treatment as a continuous variable is justified on the basis that respondents would expect it (pers. comm. Hennig C.).

are also under-represented. Unfortunately data regarding occupation and income of the Hanoi population were not available with which to compare the sample population directly.

It is highly likely that those working in the armed forces and police and government officials are under-represented because government buildings and police were actively avoided (Figure 3.3). It is also probable that those working in services (e.g. security guards, sales people, parking attendants) and unskilled occupations (e.g. mobile street sellers, cleaners) are over-represented because they were typically the 'frontline' of people encountered along the streets of Hanoi. In contrast, professionals and clerks working in offices are likely to have been much less accessible and hence under-represented. Moreover, many of those involved in the highest status occupations may have been missed because they were busy and/or inaccessible in large offices where gatekeepers were more accessible candidates.

Figure 3.3 Percentage of respondents according to main occupation (n=890)[9]:



[9] Occupation data missing for 2.8% (n=25) sample

In addition, while a considerable proportion of men reported a skilled occupation, relatively few women did so. The majority of these men worked in male-dominated jobs such as mechanics and driving which, necessarily, line Hanoi's streets. In contrast, skilled women are perhaps more likely to work in the many factories located in the outskirts of Hanoi: female factory workers can be seen streaming to and from factories on the outskirts of the city between shifts (pers. obs.). Likewise, unskilled women comprised mainly of mobile street sellers while unskilled males are perhaps more likely to be found labouring in less-accessible building sites or fields. Finally, due to compulsory retirement at 55 years for women and 60 years for men (pers. obs.), it is unsurprising that the proportion of retirees is high.

3.4.6. Data Entry and Analysis

I entered all quantitative data in an Excel spreadsheet within a week of being collected. This enabled me to investigate and clarify anything unclear or unusual on the completed questionnaires with RAs, to identify potential interviewees (see Section 3.4.1) and to begin initial analyses. Quantitative data were analysed using SPSS 14.0. How data were organised for analysis, and treatment of missing data is detailed below; more details, including of the statistical tests used, are given in the relevant data chapters.

Due to the sensitivity of reporting income, respondents were asked to choose a card showing the income category representing their income for the previous month: for this reason, fixed income categories were used to measure both personal and household income in the last month in place of a continuous scale. Family income was subsequently calculated as the median income within the category selected, divided by the total number of people it was reported as shared between during the same period. For analysis, family income and personal income were divided into sample quartiles, and education into approximate tertiles. For multivariate analysis, dummy variables were then created for all categorical predictors with the largest category or the richest quartiles for family and personal income serving as the baseline group. All predictors were entered into multivariate models in one block because the effect of order of entry of predictors is often overstated (pers. comm. Hennig C.).

Complete data for family income is missing for 40.7% of the sample. By default SPSS does a list-wise deletion of missing data meaning that when family income is included in a multivariate model 40.7% of respondents are excluded from analysis. Data are seldom missing at random; for example poorer respondents may be more reluctant to give their income than richer respondents meaning that non-responses are biased towards poorer respondents. Simply excluding missing cases can therefore both bias the results and substantially diminish the power of any analysis. For these reasons imputation of missing values, particularly when 5% or more of the sample, is often preferable to deletion; imputation, however, can distort coefficients of association and correlation relating variables and also requires expertise (Kalton & Kaspryzk 1982).

An alternative option is to treat non-response as data in itself by placing non-responses in a category of their own. This allows all cases to be included in the analysis although any resulting gain in analytical power as a result will be offset to some extent by the necessary rise in the number of predictors in the model. This also introduces the hypothesis that the non-response group is different from other respondents in terms of family income: a reasonable hypothesis considering that non-response is rarely random, and a potentially important one if a significant result is found. And given the considerable potential bias introduced by deleting 40.7% of cases, the complexity of imputation and on the other hand the increase in analytical power and accuracy achieved by including all respondents with non-response categories, this final alternative is most attractive. Non-response categories are therefore included for all the predictor variables for which 5% or more data are missing including family income and personal income, having 40.7% and 12.7% of values missing respectively. However, although education data were missing for less than 5% of respondents, preliminary analysis showed knowledge and awareness scores of those for whom education data was recorded differed significantly from those for whom it was not; education is therefore also treated as a categorical predictor with a non-response group for this analysis (Chapter 8), and also in other analyses for consistency.

3.5. Qualitative Methods

Qualitative methods such as semi-structured interviews (SSIs) and focus groups may achieve limited sample sizes relative to quantitative methods but enable research questions to be explored in more depth. Interviews are essentially an opportunity for the researcher to encourage respondents to "create field notes about the research topic that record the world through the informant's eyes" (Weiss 1994 in Matthews 2005: 801); they encourage detailed response and allow respondents to expand upon thoughts as desired and in their own words (Hunter & Brehm 2003). On the downside, interviews are costly and time-consuming to complete and analyse, and vulnerable to interviewer bias and the varying eloquence of respondents (Glastonbury & MacKean 2004).

This freedom to elaborate in their own familiar words rather than those of the researcher is a valuable asset of SSIs when aiming to gain a better understanding of issues such as the values associated with wild meat and attitudes towards wild animals, their consumption and conservation. Moreover, qualitative data collection is essential groundwork for the preparation and design of structured methods and are useful in explaining and examining subsequent quantitative findings in more depth. SSIs have been used to explore knowledge of, and concern about, biodiversity amongst US residents in a North American biodiversity hotspot (Hunter & Brehm 2003) and have accompanied questionnaire surveys researching perceptions of wildlife and its conservation in Japan, Germany and the U.S.A (Kellert 1991b; 1993a). SSIs have also recently been used to research public perceptions of environmental problems (Pham & Rambo 2003) and of food safety risks (Figuie 2004) in Hanoi.

A number of researchers have successfully used SSIs and/or focus groups, to explore attitudes, awareness and knowledge in Vietnam around sensitive topics such as tuberculosis (Johansson et al. 1999; Nguyen et al. 1999; Hoa et al. 2004), emergency contraception (Nguyen et al. 1997), smoking amongst women (Morrow et al. 2002) and STDs (Go et al. 2002). Studies exploring knowledge and concern related to wildlife in the USA and Hong Kong have also employed SSI and focus group techniques (Lee et al. 1998; Hunter & Brehm 2003). Focus groups have also

been used to provide insightful narratives and anecdotes about the cultural and social meanings of wild animals and of the human activities that relate to them (Wolch & Lassiter 2004).

Focus groups are good at examining *what* respondents think, but are especially useful for exploring *why* they think in that way (Morgan 1988). Participants are challenged by others who hold opposing views and are forced to think, reason and explain their views in their own words, and to build on, and perhaps subsequently influence, the responses of other participants (Oates 2002). As such focus groups are useful to identify attitudes and the arguments participants select use to support or contest them. The synergistic influence of a group setting may elicit information or ideas not obtained in individual interviews (Stewart & Shamdasani 2006). On the other hand, focus groups are artificially constructed situations and can be difficult to use, requiring a skilled moderator able to minimise their own impact on results and willing participants (Oates 2002). Negotiating access to participants and analysis is time consuming and costly, and introduces interviewer bias. Since responses are not independent, the ability to generalise is limited. More importantly, groups may be biased by dominant group members, which is a particular concern in a hierarchical society such as that in Vietnam, and are for this reason are not used in this research (Go et al. 2002; Oates 2002).

3.5.1. Semi-Structured Interviews

All SSIs (n=77) were completed by the author, the majority (n=73) with the assistance of a Vietnamese interpreter. The remainder (n=4) were completed in English and these are identified as such when used throughout the thesis. All interviewees gave their permission to record using a discreet Dictaphone. The interview and these recordings were transcribed directly into English mostly within a fortnight, but occasionally within one month, of the interview by the same translator present at the time. Interviews were completed with two distinct groups: self-reported wild meat consumers (n=39) and the central Hanoi public (n=38). Interviewees were allowed to guide the interviews as much as possible around the themes being explored. Questions discouraged one-word answers, avoided putting words in respondents' mouths and focused on specific events

rather than general views (Oates 2002; Matthews 2005). Nevertheless, my own preconceptions and those of the translators and incomplete translation at the time of the interview will have inevitably influenced the direction of interviews and the resulting data.

3.5.1.1. Wild Meat Consumers

To examine the context of wild meat consumption, perceived characteristics of consumers, the values associated with wild meat and consumer attitudes towards farmed wild meat, interviewees who had recently consumed wild meat were targeted (n=39). These interviews were completed with an interpreter who had excellent English and extensive wildlife expertise and translation experience from previous long-term employment with ENV. Moreover, as a local man - though living in neighboring Ha Tay province he has studied and worked in Hanoi - in his mid-thirties I felt he was well placed to accompany me to interviews with wild meat consumers who have been reported to be predominantly male (Venkataraman 2007).

I aimed to observe and interview wild meat consumers while they were eating wild meat in restaurants so, during the pilot study, I began approaching wild meat restaurants from a list provided by WCS. Unfortunately many of these restaurants had closed or moved since the list was compiled meaning that many hours were spent trying to locate restaurants serving wild meat, a menu option rarely openly advertised. In addition, restaurateurs were generally unwilling to allow me to access other patrons who were typically provided with a private room for their meal. I made a point of befriending the staff of a restaurant I passed daily and which, at various points, boasted cages of live civets, porcupines and crocodiles, and ornamental stuffed tigers. But whenever 'important' guests were present - indicated by expensive cars, often with government plates, parked outside - they were always keen for me to move on, and when I eventually approached with an interpreter they were uncomfortable and unwilling to talk for long. Wild meat restaurants located in the suburbs and outside Hanoi also typically had private rooms for dinner parties and simply coinciding with a visit by a party of interest,

let alone actually accessing these groups was a huge challenge. I needed to access consumers another way.

I decided to approach self-reported wild meat consumers from the questionnaire while continuing to make, where possible, opportunities to observe and speak with consumers accessed by other means. In the end, the majority of consumers providing SSIs (n=35) were questionnaire respondents who reported having consumed wild meat in the last twelve months and also gave their contact details; each week these contact details were passed to the translator who then arranged appointments with at least two individuals from the list at a time and place convenient to them; interviewees were therefore necessarily those who were contactable, available and willing to be interviewed. Of the remainder (n=4), two were members of the public on the periphery of other interviews who had something to contribute and so were interviewed subsequently, and two were contacted through personal acquaintances because they had mentioned eating wild meat recently. The characteristics of all the wild meat consumers interviewed are summarised in Table 3.6 (p. 77).

Prior to the interview, interviewees were told that the interviews aimed to research the potential of wildlife farming in Vietnam and therefore that we wished to speak with those who had recently enjoyed eating wild meat; all gave their permission to be recorded. Where possible, interviews were conducted in a neutral and quiet location such as a café but some were also completed in the interviewee's own home and/or workplace. Despite concerns that people would be unwilling to discuss consumption of wild animal products, interviewees were found to be surprisingly open. Those who were more reserved tended to talk about consumption behaviour in the third person or moved their consumption activities further into the past; however, more often than not, as the interview progressed and the interviewees relaxed they would switch to the first person and the present or more recent past. Interviews typically lasted from thirty minutes to up to an hour; topics covered are summarised in Table 3.5.

Table 3.5. Main topics covered in SSIs with wild meat consumers (n=39)

Context of wild meat consumption *E.g. Please describe the last occasion you ate wild meat*
General perceptions of wild meat consumers and occasions when wild meat is eaten *E.g. What types of people tend to eat wild meat?*
Values associated with wild meat and wild animal-derived medicines *E.g. Why do people choose to eat wild meat?*
The potential of farming wild animals for meat/attitudes towards farmed wild substitutes *E.g. What do you think about expanding wildlife farming to provide wild meat and medicine?* *E.g. Have you ever eaten meat from a farmed wild animal? What is it like?*

3.5.1.2. Central Hanoi Public

To examine attitudes towards wild animals and their conservation, awareness and experiences of wild animals, SSIs were also completed with members of the central Hanoi public (n=39). All these SSIs were completed with a second interpreter: a highly skilled woman in her mid-twenties working as a lecturer in English Language at the Vietnamese National University and also as a professional interpreter; having completed an MRes in Linguistics from the University of Melbourne, she was also experienced in qualitative research, able to provide valuable insights into interviewees' use of language and was someone with whom I was regularly able to discuss ideas and ask questions. Together we completed an average of two SSIs per week between April and August 2007.

Interviewees were accessed in two ways. First, members of the public (n=28) were approached in and around parks, lakes, cafes and typical meeting places where people often go to relax and exercise in the late afternoon and evening. Approximately one third of those approached refused to be interviewed meaning that interviewees were biased to those who were free and willing to talk; these individuals were usually able to talk for some time and under no pressure, and interviews typically lasted between thirty to fifty minutes. Very occasionally an interviewee, although willing to be interviewed, had limited views regarding the topics raised meaning that the interview contained more of the interviewers than the interviewee; these interviews were usually wound up early and not transcribed. While this approach to finding interviewees was successful in finding students and retired individuals, it was less successful for other age groups and those in full-time employment. For this reason, the interpreter and I began making

appointments with friends of friends, colleagues and acquaintances we knew in passing through every day life; nine further interviews were completed in this way. Table 3.6 summarises the characteristics of members of the central Hanoi public interviewed.

All interviewees were told the research was investigating interactions with, and attitudes towards, wild animals and the interviews typically covered the themes summarised in Table 3.7. Nevertheless, many interviewees in the second group talked about either recent personal consumption of wild animal products or consumption by close friends or family members, allowing for some overlap with the themes broached with wild meat consumers (Table 3.5). Similarly, interviews with wild meat consumers often naturally moved onto topics covered with members of the public. For this reason all interviews contain information relevant across the thesis and all interviews are included in the analysis for all sections of the research.

Table 3.6. Characteristics of the members of the central Hanoi public (n=38) and the wild meat consumers (n=39) interviewed in SSIs:

Characteristics		**Interviewees (%)**	
		Central Hanoi Public	**Wild Meat Consumers**
Age (years)	<30	36.8	23.1
	31-39	18.4	23.1
	40-49	18.4	15.4
	50-59	10.5	33.3
	60+	15.8	5.1
Birthplace	Hanoi	78.9	61.5
	Outside Hanoi	21.1	28.2
	Missing data	0.0	10.3
Education	Primary	5.3	5.1
	Junior	7.9	20.5
	Secondary	60.5	38.5
	Higher	13.2	28.2
	Missing data	13.2	7.7
Occupation	Students	28.9	0.0
	Retired	21.1*	20.5**
	Service workers	15.8	23.1
	Professionals/Business people	13.1	28.2
	Skilled workers	7.9	15.4
	Unskilled workers	7.9	0.0
	Unemployed	2.6	0.0
	Housework/childcare	2.6	0.0
	Clerks	0.0	7.7
	Army/police/state officers	0.0	5.1
Sex	Men	52.6	69.2
	Women	47.4	30.8

*Retirees included two government officials; **Retirees included ex-service and ex-skilled workers and a senior official in the department of National Defence and Security.

Table 3.7. Main topics covered in SSIs with the central Hanoi public (n=39)

Non-consumptive interactions with wild animals *E.g. Please describe an occasion when you visited a national park or forest*
Wild animal-related knowledge and awareness *E.g. Can you tell me the names or describe any rare species native to Vietnam?* *E.g. Can you describe any threats to wildlife species in Vietnam?*
Concept of conservation *E.g. How would you define wildlife conservation?* *E.g. What could be done to better protect wild species?* *E.g. What do you think about farming tigers in Binh Duong?*
Wildlife Farming/Consumptive Use *E.g. Do you think Vietnam should expand wildlife farming for meat and medicine? Why?*
Naturalistic *E.g. Do you think animals like tigers and crocodiles should be kept in secure areas such as zoos?*
Ecologistic *E.g. Should Vietnam concentrate on protecting economically valuable species?*

3.5.2. Data Entry and Analysis

N6 software was used to facilitate analysis of the resulting transcripts; the majority of these were coded after the data collection period. However, I frequently returned to the original transcripts as a whole at all stages of the analysis in order to identify and explore new themes and to reconsider the data in its full context. Analysis aimed to be informant-led and fully grounded in the data. The quotes presented in the results throughout the thesis reflect, unless otherwise specified, the primary themes emerging from the interviews in relation to the research questions being explored in each chapter.

3.6. Unstructured Data Collection

A research diary was kept recording conversations, observations and events as well as any problems encountered and developments or ideas arising from the structured data so far collected. A record of relevant articles published on Vietnamese news websites and in newspapers was also made. The data collected using structured methods is also interpreted in terms of the experiences and observations of both myself and other expatriates while living in Hanoi and travelling throughout Vietnam, and also the knowledge I gained about Hanoian society from working, socialising and interacting with local people on a daily basis. I discussed ideas and observations with Vietnamese friends and colleagues, many of whom were from central Vietnam and were therefore perhaps able to offer insights into Hanoian society those more local might overlook.

4. The Scale and Context of Wild Animal Consumption

4.1. Introduction

4.1.1. Scale and Context of Wild Animal Consumption in Vietnam

Vietnam has been established as a central hub for wildlife trade (Lin 2005: 15) andthere is substantial concern that it is now also a significant consumer of wild animals (Chapter 1). But due to the difficulties of investigating an illegal trade, the scale of domestic consumption is relatively unclear. Based on direct investigations of wildlife trade and data collected from key informants, Nguyen (2003) estimates that as much as half of the volume of live wild animals and wild meat traded in Vietnam is consumed domestically, and that 80% of this is consumed as wild meat in restaurants.

Recently, researchers have begun to estimate the scale of demand for wild animals by asking consumers to report their own consumption of wild animal products. Most such studies tend to measure lifetime wild animal product consumption. For example, Venkataraman (2007) found that 47% of Hanoi residents reported having used wildlife products in their lifetime, 82% of whom reported eating wild meat specifically, while various researchers report between 46% and 68% of residents of different Chinese cities consuming wild meat at some time in their lives (WPAC 2000 in Nooren and Claridge 2000; Wu et al. 2001 in Guo 2007). A more recent study measured consumption by Guangzhou residents within the last year, finding that during this time period 29% of those surveyed reported consuming wild meat on one or two, 10% on several, and 3% on many, occasions (Guo 2007).

Restaurants serving wild meat are thought to be concentrated in urban areas such as provincial capitals (Roberton 2004). Many wild meat restaurants can also be found in and around Hanoi, particularly along major highways in and out of the city (Nguyen 2003). Moreover, the trend for eating wild meat in restaurants appears to be growing in popularity in Vietnam (SFNC 2003), and some informants in Quang Nam claim that supply sometimes cannot satisfy demand (Roberton et al. 2004). Species reported consumed most frequently were wild pig, porcupine, sambar, muntjac and soft-shell turtle and restaurateurs in Quang Nam and Quang

Binh provinces report highest demand for wild meat in the dry season from February to September (SFNC 2003; Roberton 2004; Roberton et al. 2004). According to Nguyen (2003), some restaurants in Le Mat in Hanoi are capable of serving more than 300 customers at one time and include a wide range of species on their menus including snakes, civets, monitor lizards, porcupines, leopards, pangolins, monkeys, wild pigs, hard and soft shell turtles, and birds. A recent survey indicated that the meat of deer and wild pig, turtle, snake, civet and porcupine are species commonly reported eaten by Hanoians (Venkataraman 2007).

Many wild animal parts are also used in traditional medicine (Nguyen 2006). Demonstrating this variety, the section entitled 'animal drugs' in Li Shizhen's influential *Materia Medica* (written in 1697 and translated by Read 1931), and the more recent 'Illustrated Chinese *Materia Medica*' (Yen 1992), lists medicinal values of, amongst others, tiger, leopard, rhinoceros, deer and bear parts. In Vietnam, python bones are used to make balm for backache and bone pain while python fat is used to treat burns; pangolin scales are used to treat skin inflammation and to improve lactation; turtle and tortoise plastron is used to treat rheumatism and as a tonic for the heart and monitor lizard gall is used to treat asthma (Compton & Le 1998; Compton 2000). A bone jelly called *cao* can be made of the bones of certain animals; macaque bone, for instance, is chiefly prescribed for gynaecological problems (Nguyen 2006; see also Box 1.1, p. 32). A similar jelly is made from deer or stag antler used, infused with alcohol, as a general tonic, an anti-rheumatic and an anti-hemorrhagic; the antlers of young deer produce a particularly potent and valuable tonic (Nguyen 2006).

A recent study found 30 and 68 animal species on traditional medicine markets in northern and southern Vietnam respectively (Nguyen & Nguyen 2008). Bear bile is a particularly widely used medicine in Vietnam (Box 1.2, p. 33). Venkataraman (2007: 13) found that just under a quarter of Hanoians reported using a "wild animal health product" during their lifetime, yet a survey in the previous year found almost a third reported using bear bile within the last year (Nguyen &

Reeves 2005). Wild animal-derived bile and bone glue are often on sale in restaurants serving wild meat (Roberton 2004).

A variety of wild animals or wild animal parts are mixed whole with rice wine (Compton 2000). These wild animal-based alcoholic drinks are widely served in wild meat restaurants (Roberton 2004) and are thought to have medicinal benefits (Venkataraman 2007). A smaller component of trade is for ornamental products: skins, skulls, antlers, teeth and claws are collected for display and are also used to make jewellery and souvenirs (Compton & Le 1998; Nooren & Claridge 2000; Roberton 2004). Wild animal-derived ornamental products were reported "used" by 16% of Hanoian respondents (Venkataraman 2007: 16). Relatively small volumes of wild species are traded as pets (Compton & Le 1998; Duckworth et al. 1999; Roberton 2004).

4.2. Methods

4.2.1. Measuring Scale

Rather than asking *if* they had "eaten, bought or been given" wild meat in the last twelve months, questionnaire respondents were instead asked "*on how many occasions*" had they done so. This question structure, which assumes consumption has taken place, was considered favourable given concerns that respondents might be wary of reporting consumption of products that are illegal to harvest and trade, on the basis that if the interviewer already appears to think one has consumed such products, it is much easier to admit to consumption. Respondents who reported consumption were then asked to recall the species consumed, while those who reported no consumption were instead asked if they had *ever* eaten, bought or been given wild meat and if so, to recall the species involved and to give an approximate timeframe if possible.

To understand what is driving demand for wild meat amongst Hanoians better, the context of wild meat events was also explored. For each wild meat event reported in the last twelve months, respondents were asked to report the company (friends, family and/or colleagues) with whom the meal was eaten, the setting (i.e. restaurant/house) and location of the meal, and to describe the occasion. The

findings regarding the context of wild meat consumption presented and discussed below are built on in subsequent chapters towards a fuller understanding of the social drivers of demand for wild meat.

All respondents were next asked a series of questions regarding their consumption of wild animal products other than wild meat in the last twelve months. Despite the potential bias introduced by including examples of products, trials showed that examples helped the respondent to recall from a wide range of potential wild animal products consumed and for this reason three examples were included in the question (Appendix A). A fixed timeframe of the last twelve months is a long recall period susceptible to a considerable margin of recall error, but in order to manage any seasonal variation in consumption rate, and because the pilot study indicated wild meat consumption was a memorable event for many respondents, a year was considered suitable.

4.2.2. Defining Wild

The concept of 'wild' varies widely according to cultures and geography. Moreover, the distinction between wild and domestic can be problematic since many domesticated species are able to return to the wild as feral taxa and many wild taxa can be domesticated (Chardonnet et al. 2002). Varied production systems exist for both wild and domestic animals within which there are grey areas; for example human management of species may be minimal and yet the trade in products derived from them may be highly systematic (Chardonnet et al. 2002; Hoffman & Wiklund 2006). Throughout data collection, the Vietnamese term *thịt thú rừng* meaning 'meat of the forest' was used. This term also commonly encompasses meat considered unusual or exotic but which is not necessarily derived from forest species including, for example, soft-shell turtle and crocodile (pers. comm. Ho Gia Anh Le; pers. comm. Nguyen Danh Chien).

4.2.3. Statistical Analysis

Respondents who reported consumption in the last twelve months were asked to give further details for up to five events of wild meat consumption and three events of consumption of a wild animal product other than wild meat during that

time period (Appendix A). This approach gives rise to a greater number of events of consumption (n=390) than consumers (n=207), i.e. within-person dependency when looking at total events. In order to meet the independence assumption of statistical analysis a majority vote method (pers. comm. Hennig C.) was therefore used to provide one representative score for each of the four context variables per respondent. Where there was no majority a separate score representing 'mixed' was to be assigned. In practice a mixed score was never required because either a majority existed or data were incomplete meaning no score could be assigned; for these consumers, data were instead treated as missing.

Due to the limits imposed by the small sample size and relative homogeneity of the consumer subpopulation, binomial - rather than multinomial - outcomes for company are analysed (i.e. colleagues present/colleagues not present; family present/family not present; friends present/friends not present, restaurant/other setting). The two most common basic definitions of setting were also analysed (restaurant/private house); events fitting neither of these categories (n=3) were treated as missing.

Nevertheless, due to the relatively small size of the consumer sub-sample, it was necessary to merge some predictors to overcome singularities arising from insufficient data in these groups: unsalaried occupations including retirees, students, the unemployed and those whose occupation was housework or childcare were merged; skilled and unskilled workers were merged on the basis they are both low-ranking; and businesspeople and finance professionals were merged as high-ranking occupations originally classed together in the questionnaire (see Chapter 5 for an analysis of the relationship between occupation and wild meat consumption). Pearson's chi-square is used to look for significant differences in company and setting according to categorical variables. Due to the large number of occupation categories, logistic regression using dummy variables (see Chapter 3) is used to explore the relationship between company/setting and occupation; logistic regression is also used to assess the predictive value of age on outcome.

4.3. Results

4.3.1. The Scale of Consumption

Over a fifth (22.6%) of respondents reported buying, eating or being given wild meat in the last twelve months and similar proportion (23.7%) reported buying, using or being given a wild animal product other than wild meat during the same period[10] (Figure 4.1). In total, 37.6% of respondents reported consuming a wild animal product on at least one occasion in the last twelve months: 12.3%[11] wild meat only; 15.0% a wild animal product other than wild meat only; 8.7% both. Respondents who reported eating wild meat in the last year were significantly more likely to also report consuming a wild animal product besides wild meat than those who did not report wild meat consumption (χ^2 [1]=33.31, p<.01).

By far the next most commonly reported product consumed was bear bile: 18% of respondents reported consuming bear bile either applied neat or drunk in alcohol (Figure 4.1). Much smaller proportions of respondents reported consuming other wild animal products other than wild meat or bear bile. Bone glue or *cao* was reported by 2.5% and "wild" honey by 2.1% of respondents; Table 4.1 details further types of medicinal product reported by 1.2% of respondents. A handful of respondents reported buying or being given an ornamental product derived from a wild animal (see Table 4.1 for details). Over and above the 23.7% of respondents who report consuming a wild animal product in the last twelve months, 4.4% of respondents reported keeping, breeding or trading live birds and 0.6% keeping, breeding or trading live monkeys, bears and/or deer.

Table 4.1 Details of wild animal-derived products as defined in Figure 4.1

Product Type	Details, in order of frequency reported, most frequent first
Bone Glue	Tiger, macaque, python, bear, serow, weasel, snake.
Other Medicinal Product	Deer antler, rhino horn, snake head, python fat, porcupine stomach, wild pig tooth, monkey brain.
Ornamental Product	Shell jewellery, mounted marine turtle shells, tiger claws, wild pig teeth, stuffed wild birds, crocodile skin bag, mounted butterfly, squirrel tail, carved elephant tooth necklace.

[10] Respondents were asked whether they had "bought, eaten or been given" wild meat and "bought, used or been given" a wild animal product besides wild meat. However, from this point onwards, respondents giving positive respondents are simply said to have consumed or eaten these products.

[11] An additional 1.6% of respondents report wild meat consumption but data are missing regarding consumption of wild animal products other than wild meat.

Figure 4.1 Percentage of respondents (n=915) who reported consumption of a). wild meat, b). a wild animal product other than wild meat in the last twelve months and c). reporting owning, breeding or keeping live animals, with 95% confidence intervals.

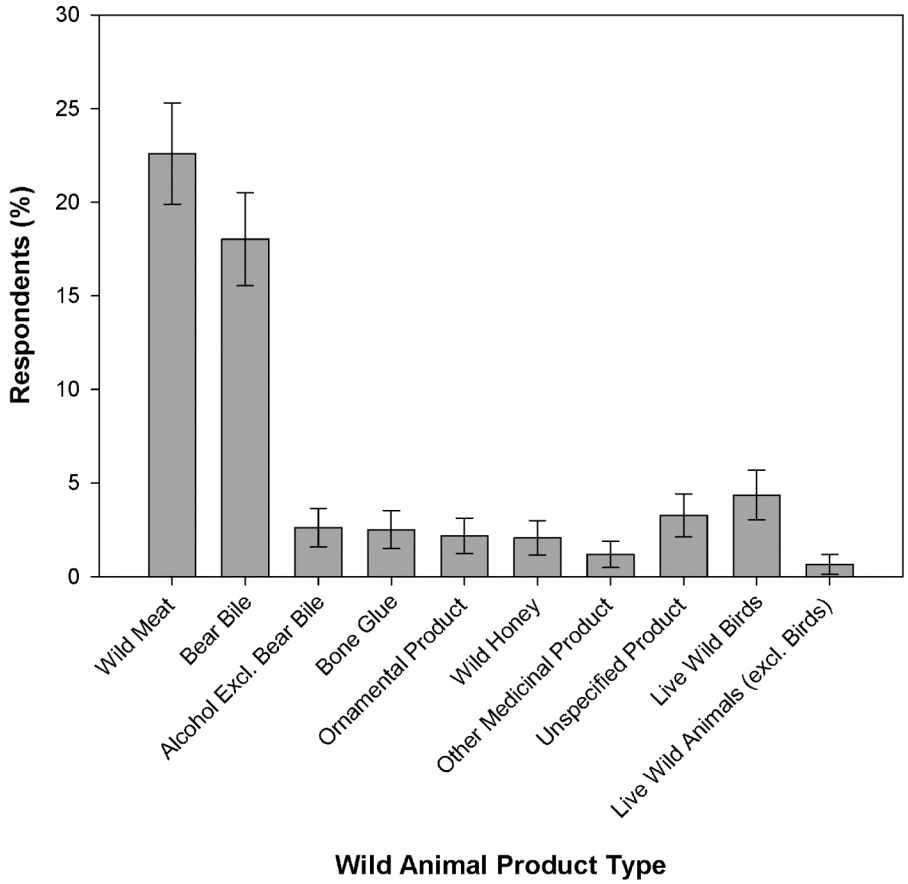
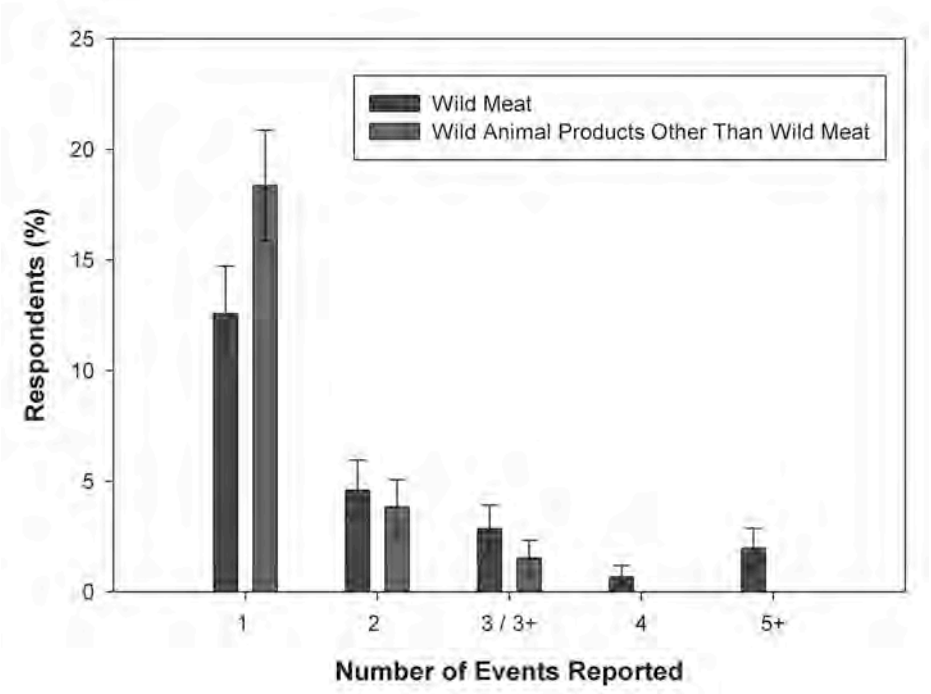


Figure 4.2 Percentage of respondents (n=915) according to the number of events reported reporting consumption of wild meat and other wild animal products in the last twelve months, with 95% confidence intervals; respondents could report up to five wild meat consumption events and three events of consumption for wild animal products other than wild meat.



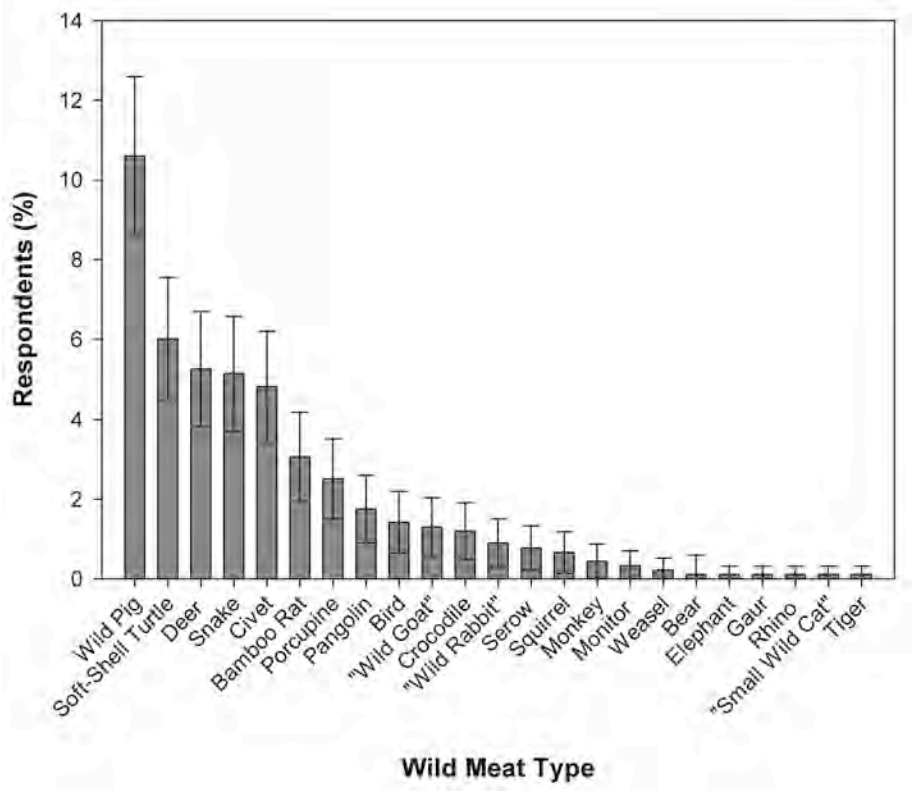
4.3.1.1. Frequency of Consumption

The majority of consumers reported just one event of consumption during the last twelve months (Figure 4.2). In total, there were 390 separate events of wild meat consumption reported, and 292 separate events of wild animal product consumption reported within the last twelve months, an average of 1.9 and 1.3 events per consumer respectively.

4.3.1.2. Wild Meat Species

The majority of wild meat consumers ate just one species at each wild meat event reported, an average of 1.6 species per event. Wild pig (*Sus scrofa*) is the most common type of meat reported eaten in the last twelve months, followed by soft-shell turtle (Figure 4.3). Of the 5.2% of respondents who reported eating deer meat, 3.0% specified *nai* which encompasses sambar deer (*Cervus unicolor*), brown-antlered deer (*Cervus eldi*) and hog deer (*Axis procinus*); 1.4% specifically identified *hoăng* meaning muntjac (*Muntiacus* spp.); and the remaining 0.8% selected *hʉơư*, encompassing sika deer (*Cervus nippon*) and musk deer (*Moschus chrysogaster*) (Weitzel 2008).

Figure 4.3 Percentage of respondents (n=915) who reported eating wild meat type on at least one occasion in the last twelve months with 95% confidence intervals:



Respondent's definitions of wild are used. Respondents who report eating "wild birds" may be referring to Jungle Fowl (*Gallus gallus*) to which many interviewees refer specifically, although a recent study of wild meat consumption in China reports a wide variety of wild birds consumed under the general title of "wild bird" including herons, sparrows, storks, doves and partridges (Guo 2007). Respondents who report eating "wild goat" may be referring either to recently introduced domestic goat varieties perhaps considered by some consumers as "wild" due to their relative novelty; it is also possible respondents are referring to Serow (*Capricornis* spp) which a few respondents expressly report eating. Respondents who report eating "wild rabbit" are likely to be referring to wild hares (*Lepus* spp.); a similar proportion of wild meat consumers report eating wild hares in the last twelve months in Guangzhou (Guo 2007); it is also possible they are referring to domestic rabbits, perhaps including these because they are not a domestic animal commonly eaten.

One respondent each reported eating meat from endangered or critically endangered species including tiger (*Panthera tigris*), gaur (*Bos guarus*), rhinoceros (Rhinocerotidae spp.) and elephant (*Elephas maximus*)[12]. The respondent who reported eating tiger meat is a retired government officer: he claims his friend, also a retired government officer, bought a whole tiger carcass from Vietnamese soldiers who killed it near the border with Laos. A wealthy respondent reported buying bear and elephant meat from Hanoi Zoo while another, less affluent individual, claims to have eaten monkey meat obtained through a friend working at the zoo. Hanoi zoo has recently admitted auctioning tigers after frozen elephant, rhino and tiger parts were recovered during a police raid (Reuters 2008).

4.3.1.3. Authenticity of Reports

Despite their reports, it is unlikely that all consumers consumed genuine wild animal products (see also Section 7.3.2):

> Male skilled worker aged 39:
> *Int: Have you ever tried the meat from a wild animal?*
> *CN05: Once in Ba Be lake. Some one illegally hunted a civet and sold it to the family with whom I stayed at the time, so I had a chance to taste it. In Vietnam, there are not many places where*

[12] Classified according to IUCN (2008)

real wild meat is sold. For example, if you go to Perfume pagoda, you will see many shops displaying signs like 'wild animals sold here', but actually, they sell [domestic] rabbits. After skinning the rabbits, they trim their ears to make them smaller. For people who don't know much about wild animals, they may mistake them for wild animals. [...] This is one of the ways to make fake wild animals to earn money.

Businessman and wild meat consumer aged 56:
Int: Wild meat is very popular in Hanoi and other cities. What kinds of species do people enjoy eating the most?
WM25: There are many species, such as civet, snake, pangolin. There are many species. There are also some fake ones, not real wild meat [...]. Some restaurants pretend to sell wild meat at a high price. Some meat is fake. If someone doesn't know, the restaurant may sell them cat meat when they say it's civet. Some restaurants have cameras so that their customers can watch the whole process of cooking the meat.

Around half of wild meat consumers interviewed described observing the slaughter of live wild animals; some also oversee the preparation of the dishes in order to ensure they are served with the meat from the animal they selected:

Retired skilled male worker and wild meat consumer aged 58:
Int: How do you know the meat you eat is really from wild animals?
WM18: I see the animals slaughtered and cooked. For example, about 30 rich friends of mine and I hired a bus to Hoa Lac and bought some live animals. Then we had the animals slaughtered and cooked at once. We had to monitor the slaughtering and cooking process to avoid being tricked. So we enjoyed the real meat.

Male skilled worker and wild meat consumer aged 36:
Int: How did you know the dish you ate was real wild meat?
WM37: It was totally different [...] When you eat, you will know right away (laughed). Well! When we want to eat [...], we need to come into a restaurant and witness people kill the animal, but not the dishes which were already been prepared and brought to us. We have to see it.

The remainder trusted the restaurant to serve them genuine wild meat:

Male skilled worker and wild meat consumer aged 56:
Int: Did you buy the whole animal or just the dishes?
WM34: We ordered dishes from a restaurant. They cooked for us.
Int: How did you know it was meat from real civet?
WM34: Very difficult to tell. As a customer, we just have to trust the restaurant.

Male clerk and wild meat consumer aged 23:
Int: The wild meat you've tried; how do you know it is real wild meat?
WM21: I just feel that the wild meat is tasty and it has special flavour.
Int: Do you see the animal beforehand?
WM21: If I want to see the animal, the restaurants can show me. For example, if I order some wine with bamboo rat blood, the restaurant will cut the head of the rat by the table for the blood. Then the rat is cooked. But normally, I don't see the animal.

Female unskilled worker and wild meat consumer aged 73:
Int: Was the [deer] meat you tried from the forest?
WM33: I'm not sure. The restaurant told us that the meat was wild, and they encouraged us to try some. We just saw the meat. It looked fresh.

These findings suggest that the scale of consumption of genuine wild animal products might actually be lower than reported.

4.3.1.5. Seasonality in Consumption

There was no evidence for seasonality in consumption of any wild animal products: no differences were found in the proportion of respondents reporting consumption according to month surveyed and no interviewees made reference to seasonality.

4.3.2. The Context of Wild Meat Consumption

4.3.2.1. Company

Company data were recorded for 98.6% of wild meat consumers (n=204). Friends were the most common type of company with which wild meat was reported eaten, followed by family members (Figure 4.4). Significantly more men reported eating wild meat with friends ($\chi^2[1]=14.37$, $p<.01$) and with colleagues ($\chi^2[1]=5.81$, $p<.05$) while significantly more women reported eating wild meat with family members ($\chi^2[1]=19.57$, $p<.01$; Figure 4.4). With increasing respondent age, there is a significant rise in the likelihood of family being the company reported at the majority of wild meat events (Table 4.2), but there are no significant relationships between age and other company types. Significant differences in the proportions of consumers reporting consumption with family exist between education groups ($\chi^2[3]=8.85$, $p<.05$): 58.1% of those without, and 38.6% with, secondary education report eating with family while an even smaller proportion (29.9%) with higher education do so.

Table 4.2 Logistic regression showing the role of age on whether or not a respondent reported eating wild meat in the company of family (n=204):

Predictor variable	B(SE)	Sig.	Exp(B)
Age	0.02 (0.01)	.02*	1.02
Constant	-1.32 (0.41)	.00	0.27

Model $\chi^2(5) = 5.58$ $p<.05$. R^2 0.54 (Hosmer & Lemeshow), .03 (Cox & Snell), .04 (Nagelkerke). *p<.05, **p<.01

Figure 4.4 Percentage of wild meat consumers reporting each company type according to sex (n=204):

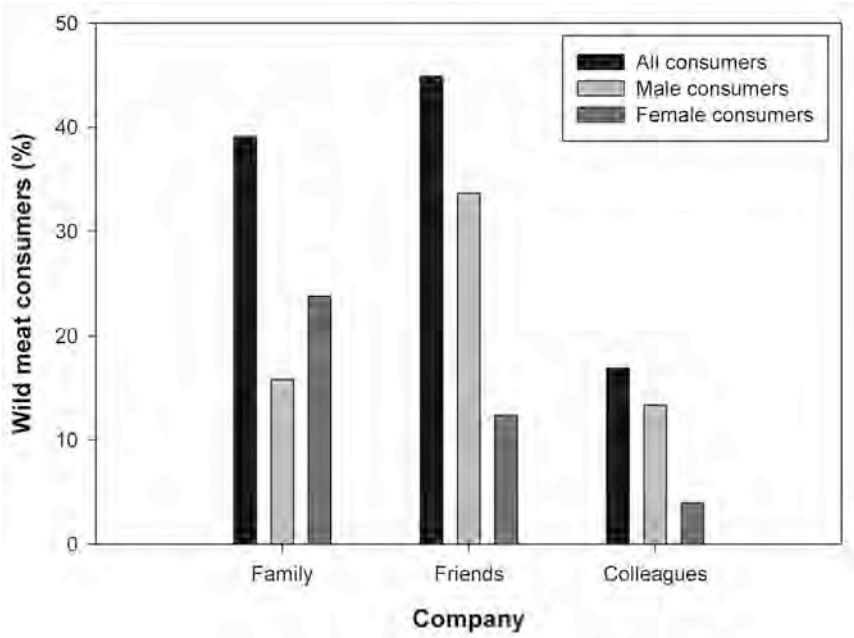
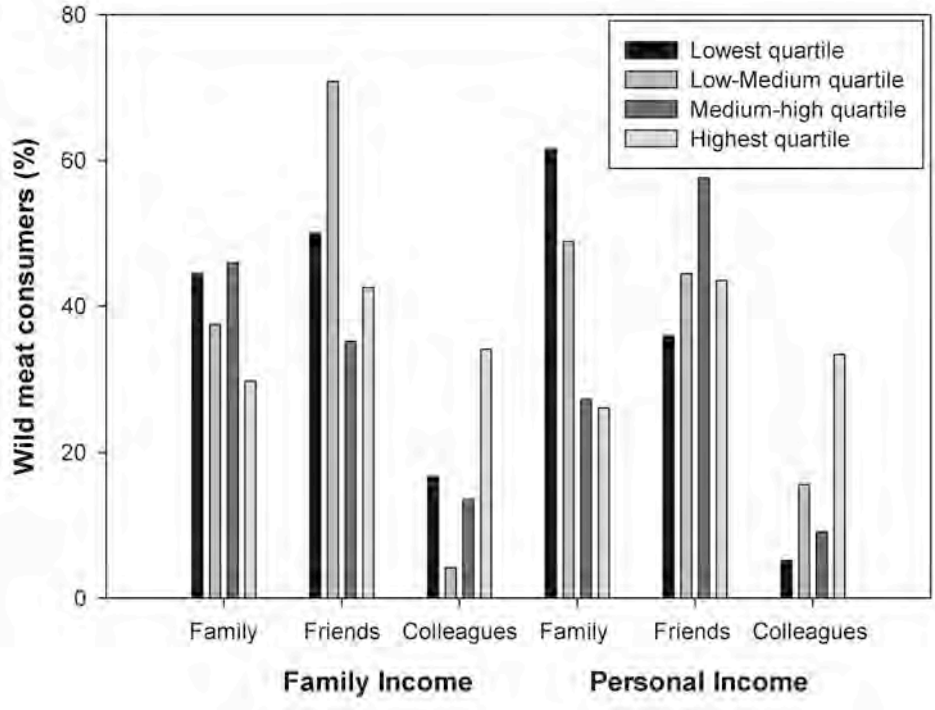


Figure 4.5 Percentage of wild meat consumers reporting each company type according to family income (n=186) and personal income quartile (n=202)



There are significant differences in the proportions reporting eating wild meat with family members between personal income groups ($\chi^2[3]=16.88$, $p<.01$), and reporting eating wild meat with friends ($\chi^2[3]=8.00$, $p<.05$) and with colleagues ($\chi^2[3]=10.71$, $p<.05$) between family income groups. Those in the two lower personal income quartiles and lower family income quartiles appear more likely to eat wild meat with family members and friends respectively, while consumers in the highest income quartiles more often report eating wild meat with colleagues (Figure 4.5). When data for each sex are analysed separately, significant differences in the proportions of men reporting eating with colleagues are also found between personal income quartiles ($\chi^2[3]=12.42$, $p<.01$): proportions reporting consumption with colleagues increases across each quartile from zero in the lowest quartile to 62.5% in the highest.

Finally, occupation significantly predicts whether or not consumers reported eating with colleagues but does not predict consumption with any other company type. Those working in the armed forces/police ($p<.05$) are much more likely to eat wild meat with colleagues; professionals and business people ($p<.01$) and skilled/unskilled workers ($p<.00$) are also more likely than service workers to report eating wild meat with their colleagues (Table 4.3).

Table 4.3 Logistic regression showing the role of occupation on whether or not a respondent reported eating wild meat in the company of colleagues (n=193)

Predictor variable		B(SE)	Sig.	Exp(B)
Occupation (Reference: Service Workers)	Armed Forces/Police	2.95 (1.29)	.02*	19.14
	Professional/Business person	1.69 (0.53)	.00**	5.41
	Clerk	0.47 (1.15)	.69	1.60
	Skilled/Unskilled Worker	1.47 (0.55)	.01*	4.35
	Unpaid Occupation	-0.71 (0.83)	.39	0.49
Constant		-2.26 (0.40)	.00	0.01

Model $\chi^2(5) = 24.03$ $p<.01$. R^2 1.00 (Hosmer & Lemeshow), .12 (Cox & Snell), .19 (Nagelkerke). *p<.05, **p<.01

As discussed and as will be demonstrated in more detail in the following chapter, multivariate analysis is useful in determining the significance of individual variables on the outcome while controlling for the effects of other apparently important variables. For this reason, the results of multivariate analysis of company are also presented here (Table 4.4). These show that men are significantly more likely than women ($p<.01$) to report eating wild meat with

Table 4.4 Logistic regressions showing the role of respondent characteristics on the company (friends/other, colleagues/other or family/other) reported at wild meat consumption events in the last 12 months

Predictor variables		Company								
		a). Friends			b). Colleagues			c). Family		
		B(SE)	Sig.	Exp(B)	B(SE)	Sig.	Exp(B)	B(SE)	Sig.	Exp(B)
Age (years)		-0.02 (0.01)	.06	0.98	-0.02 (0.02)	.37	0.98	0.02 (0.11)	.07	1.02
Sex (Reference: Women)	Men	-1.10 (0.32)	.00**	2.99	0.50 (0.52)	.34	1.64	-1.14 (0.32)	.00**	0.32
Personal income (Reference: Lowest-earning quartile)	Non-responses							-0.76 (0.63)	.22	0.47
	Second lowest-earning quartile							-0.39 (0.48)	.41	0.68
	Second highest-earning quartile							-1.13 (0.54)	.02*	0.28
	Highest-earning quartile							-1.14 (0.32)	.00**	0.32
Family income (Reference: Lowest-earning quartile)	Highest-earning quartile	-0.40 (0.55)	.47	0.67	-1.13 (0.81)	.17	0.32			
	Second highest-earning quartile	0.86 (0.67)	.20	2.37	-2.17 (1.27)	.09	0.12			
	Second lowest-earning quartile	-0.44 (0.60)	.47	0.64	-1.10 (0.92)	.23	0.33			
	Non responses	-0.40 (0.58)	.49	0.67	0.01 (0.80)	.99	1.00			
Occupation (Reference: Service Worker)	Armed Forces/Police				2.67 (1.38)	.05	14.47			
	Professional/Businessperson				1.59 (0.59)	.00**	4.90			
	Clerk				0.73 (1.19)	.54	2.07			
	Skilled/Unskilled Worker				1.09 (0.63)	.08	2.98			
	Unpaid Occupation				-0.58 (0.86)	.50	0.56			
Constant		0.14 (0.56)	.08	1.15	-1.15 (0.99)	.25	0.32	0.20 (0.55)	.72	1.22

Company: a). Model $\chi^2(6)$ 25.40 p<.01. R^2 .11 (Hosmer & Lemeshow), .12 (Cox & Snell), .16 (Nagelkerke); b). Model $\chi^2(11)$ 36.24 p<.01. R^2 .51 (Hosmer & Lemeshow), .17 (Cox & Snell), .28 (Nagelkerke).; c). Model $\chi^2(6)$ 33.89 p<.01.R^2 .53 (Hosmer & Lemeshow), .15 (Cox & Snell), .21 (Nagelkerke). *p<.05, **p<.01

friends while women are significantly more likely than men (p<.01) to report eating wild meat with family members. Unlike in the earlier analyses, no significant relationship between being male and eating with colleagues is found, suggesting this was perhaps in fact a function of occupation or income. Consumers belonging to the second highest (p<.05) or highest (p<.01) family income quartiles were significantly less likely than those in the lowest quartile to report eating wild meat with relatives, but significant relationships are no longer observed between other company types and income. This suggests the association between higher income groups and eating with colleagues is predominantly related to occupation rather than either income or gender per se. Indeed, professionals and businesspeople (p<.01) were more likely to report eating with colleagues than those in other occupations. And although not significant, also note the extremely high odds ratio of working in the armed forces/police (n=4).

The results do not necessarily indicate that those with lower incomes or women are more family-focused, but may simply imply that those with higher incomes and men are able to eat wild meat on a wider range of occasions over and above those with family members. For example, both men and those earning higher family incomes are significantly more likely to report wild meat consumption in the last year (Chapter 5), suggesting that these individuals are also more likely to eat wild meat on more occasions than women and lower-earners. However, due to the majority-vote system, while the latter may have reported eating with family in the last year, they are likely to also have eaten with friends or colleagues on more occasions and hence are recorded as eating with these groups rather than with family. Likewise, although businesspeople and professionals are more likely to eat with colleagues, due to the majority vote system, they are likely to be eating wild meat with colleagues over and above separate occasions with family and friends.

4.3.2.2. Setting

Wild meat is mostly eaten in restaurants (Figure 4.6), but consumers occasionally order pre-prepared wild meat dishes to eat at home, buy meat at a market, or take some leftover fresh meat home after having had an animal slaughtered at a restaurant, particularly after visiting another region. There are significant

Figure 4.6 Percentage of wild meat consumers reporting eating wild meat according to setting showing 95% confidence intervals (n=186)[13]:

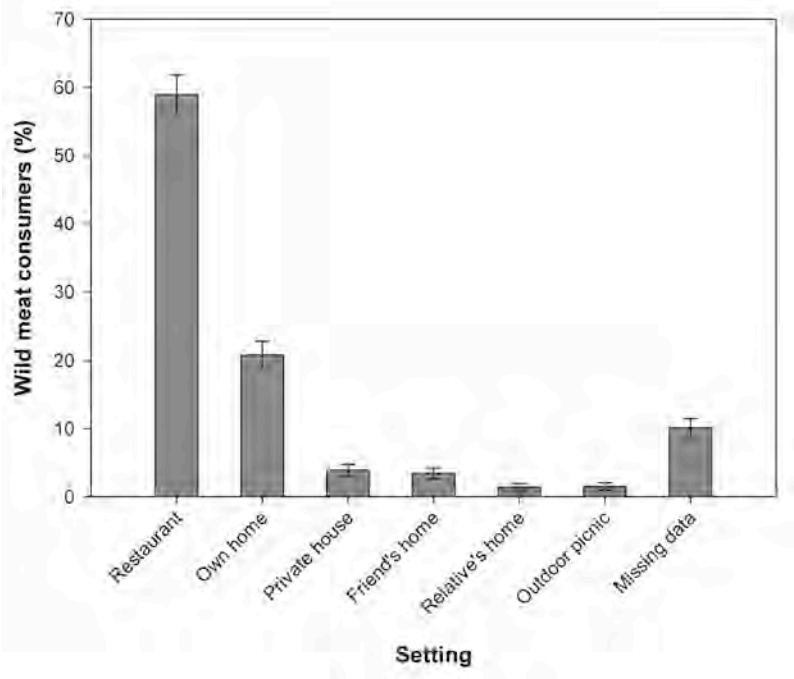
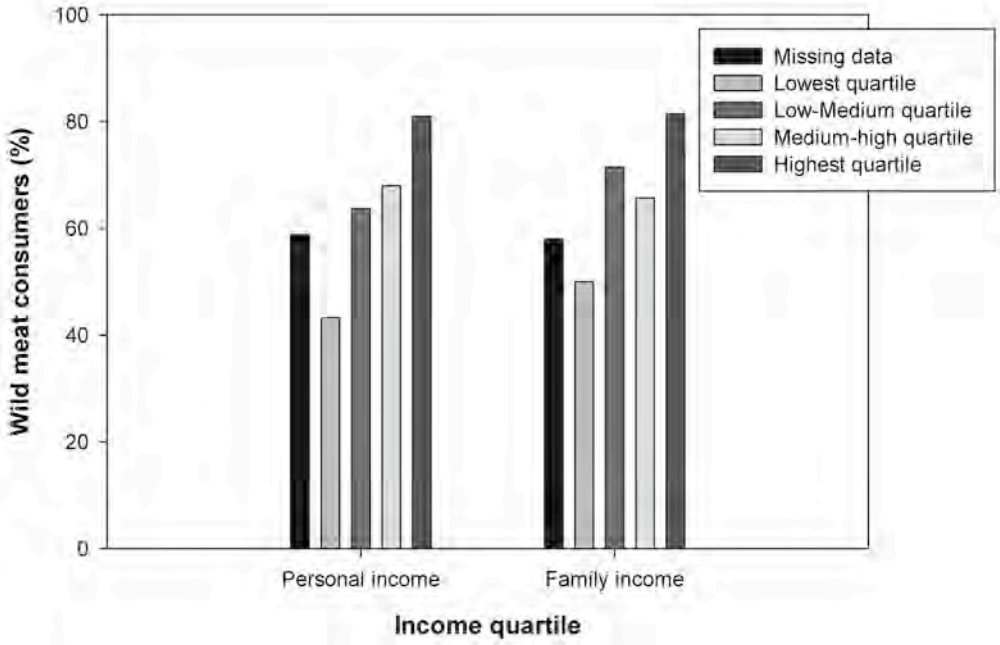


Figure 4.7 Percentage of wild meat consumers reporting eating wild meat in a restaurant according to family income (n=169) and personal income (n=117) quartiles:



[13] A majority vote for setting was recorded for 89.8% (n=186) of wild meat consumers.

differences in the proportions of wild meat consumers reporting eating wild meat in a restaurant and reporting eating in a private house (including their own, a relative's or friend's home or another private house) between personal income quartiles ($\chi^2[3]=15.02$, $p<.01$); the number increases from the lowest to the highest quartile (Figure 4.7) There is no significant relationship between setting and age, birthplace, education, family income quartiles, occupation or sex.

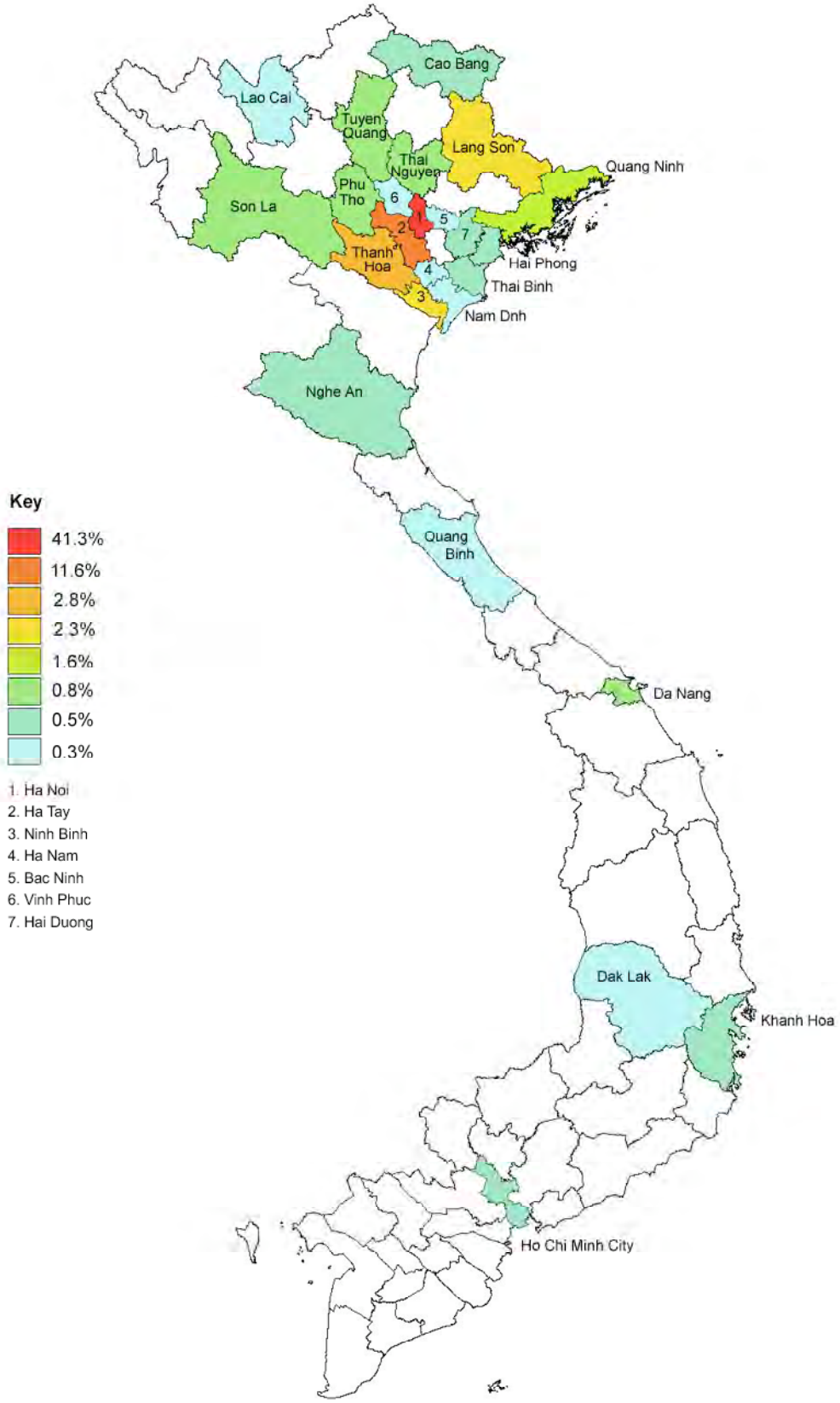
4.3.2.3. Location

Location data were recorded for 76.8% of total wild meat consumption events and are presented in Figure 4.8. Unsurprisingly, the majority of events were reported to have occurred in and around Hanoi. The remainder took place across 22 different provinces, predominantly Ha Tay and Thanh Hoa provinces through which the main roads serving Hanoi traverse, with the exception of one event reported by the manager of a tourism agency in Laos (not shown in Figure 4.8). No significant relationships were identified between the proportion of consumers reporting the majority of wild meat events in Hanoi and that reporting the majority of events outside Hanoi according to any recorded respondent characteristics.

It is considered customary to try local "specialties" and "traditional food" when travelling somewhere new, and when visiting different areas consumers are keen to try something they would not ordinarily eat:

> Male professional and wild meat consumer aged 45 used to run a resort in Tam Dao:
> *Int: What kind of people came to eat wild meat at the restaurants in Tam Dao?*
> *WM05: Among the people who come to Tam Dao and eat wildlife dishes are state officers. Actually, when they go on holiday, they want to rest and relax, and they want to eat something special that they do not eat in their normal lives. But they can only find wildlife specialities in the forest. Of course, they do not eat farmed pork that is transported to the forest. You too: when you come to Tam Dao, you want to eat whatever wildlife specialities served there to see whether the dishes are delicious or not. Normally Vietnamese people want to discover something when they go far from home.*
>
> Male professional and wild meat consumer aged 31:
> *Int: When you go out for wild meat, do you eat in Hanoi or elsewhere?*
> *WM29: Both in Hanoi and other places [...]. I eat wild meat in other places more than in Hanoi because each area has its own specialties [...] when we go on a picnic, we want to taste specialties in the place we go to, and we want to see whether the dishes are different from those cooked in Hanoi. And people have often prepared dishes for us in the place where we have a holiday or picnic.*

Figure 4.8 Map showing the percentage of total wild meat consumption events (n=287) according to province in which they were reported to have occurred



Over a quarter of events in Ha Tay province were specifically reported to have occurred during trips to visit Huong Pagoda[14]. Many of these events, typically involving eating civet, occur during the pagoda's festival. Wild meat restaurants are located outside the Pagoda and worshipping and eating wild meat are separate activities. As above, wild meat is associated with the Pagoda simply because when visiting a different place individuals like to try novel foods and local specialities:

> Male skilled worker and wild meat consumer aged 35:
> *Int: Why is civet so popular at Huong pagoda? I speak to many people who go to Huong pagoda and eat civet or bamboo rat.*
> *WM31: People visit the pagoda at the beginning of a lunar year. After their sightseeing at the pagoda, tourists often have lunch at restaurants outside the pagoda. There they can order some wild meat dishes. They rarely have an opportunity to try civet, so they take the sightseeing as a chance to try the meat.*
> *Int: Why do you visit the pagoda?*
> *WM31: I go for a religious reason – praying for good luck for the New Year, and for fun as well.*
> *Int: Why is wild meat so popular at the pagoda?*
> *WM31: People do not eat meat inside the pagoda or perform a meat-offering ceremony as worship. After praying, they go out to have lunch. Praying is praying, and eating is eating. They are two different things.*

> Male professional and wild meat consumer aged 45:
> *WM05: Whenever we go to Huong Pagoda, I eat some wild meat dishes such as civet, serow [...]. I go there once a year. The pagoda festival begins in spring, and I go in March, when there are fewer visitors.*
> *Int: Why is worshipping associated with eating wild meat?*
> *WM05: People go to the pagoda, pray for good luck, and they only eat wild meat outside the pagoda after praying.*
> *Int: Why are the two activities associated together?*
> *WM05 Have you ever been to Huong Pagoda? There are restaurants around Thien Tru sub-pagoda [...] I think it is because going to pagoda is a kind of going on holiday. People may try some wild meat dishes before they leave for home.*

Despite wild meat being considered a local speciality of Tam Dao and the area of the Perfume Pagoda, this meat is far from local. Interviewees are drawn to "special dishes" advertised by restaurants, which market wild meat dishes as traditional local specialities:

> Male skilled worker aged 44 and wild meat consumer:
> *Int: Why do people spend money on wild meat?*
> *CN20: Just its delicacy. It creates the curiosity of customers. For example, when they see a sign saying "special dishes", they want to come in that restaurant [...] Some places, like Perfume Pagoda, they have civets. So when they introduced civets - because it is the speciality of the area – we wanted to try even though we knew it was expensive.*

[14] Huong Pagoda is a Buddhist temple also known as the 'Perfume Pagoda'. Attended by thousands each year, the Pagoda's Festival runs from the sixth day of the first lunar month and lasts nearly three months with the main festival day being the nineteenth day of the second lunar month.

Male professional aged 45:
WM05: Recently, I enjoyed the meat at birthday parties, and business meeting parties. When I was a manager of the resort, I ate wild meat every week. Tourists came to Tam Dao, and they often ordered wild meat. Have you ever eaten wild pork?
Int: Yes, I have. But I cannot distinguish it from farmed pork [...] Do people come to Tam Dao to eat the meat or for other reasons?
WM05: They come to Tam Dao for their holidays, and there they can enjoy wildlife dishes because there is a lot of wild meat.
Int: So, why is Tam Dao famous for meat?
WM05: I don't know. A lot of forest meat is transported to Tam Dao, and tourists can enjoy [...] Vietnamese people go on holiday normally once a year. Whenever they come to Tam Dao, they want to try some wildlife dishes to see if these dishes are delicious.

And finally, though for many consumers visiting other areas - particularly forested and mountainous areas - is synonymous with eating wild meat, it is often unclear whether eating wild meat or sightseeing is the main objective of the trip. Certainly some consumers appear to travel specifically to eat wild meat:

Businessman and wild meat consumer aged 50:
WM39: I rarely go to try wild meat, but if I do, I will go to Hoa Binh. If I want to try snake, I will go to Gia Lam district of Hanoi.
Int: What animals have you ever tried in Hoa Binh?
WM39: My friends and I had some meat from a leopard cat or a wild cat [...] Returning from a trip to Hoa Binh, my friends and I dropped by a restaurant to have a meal. There the restaurant suggested eating some wild meat, and we accepted. We ate it together. [...] There are many restaurants in Hoa Binh. If you want to try special dishes, you can phone a restaurant to book in advance. You have to wait until the restaurant finds the rare animals you order and they call you to come.

Male service worker aged 24, worked in a wild meat restaurant:
Int: Why do you think they like wild meat particularly?
WM09: They only want to eat something new, strange and delicious. For example, when you are going along the Lang-Hoa Lac highway to Hoa Lac town, you can see a lot of restaurants where you can try jungle fowl, sambar deer, and so on. Many Hanoians go there by car to try special dishes at weekends. People in the countryside do not have money to try these dishes.

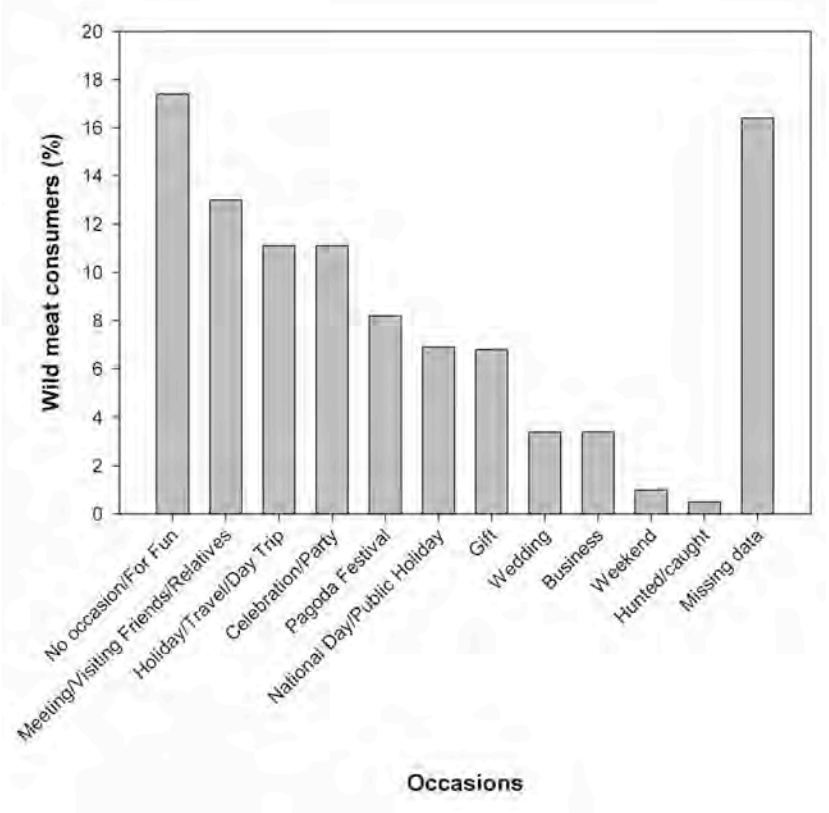
Retired male and consumer aged 58:
Int: About a month ago, my schoolmates flew from southern Vietnam and invited me to Hoa Lac to try some wild meat like deer, soft-shell turtle, and snake. [...] In Hoa Lac, you can try various dishes, even wild buffalo meat, if you are acquainted with restaurants. [...] [Older people] often go to Hoa Lac town of Ha Tay province for wildlife dishes at weekends. They often buy live animals and have the animals slaughtered. We too.

4.3.2.4. Occasion

Both quantitative and qualitative data show that wild meat is eaten on a variety of occasions. Given the difficulties in categorising this diversity - which first became evident during the pilot study - occasion was left open for the respondent to define; their descriptions are loosely categorised and presented in Figure 4.9. However, allowing interviewees to expand on these basic classifications reveals

that many occasions labelled as "fun" or to be marking "no occasion" on the questionnaire could as easily be classed as 'holiday/travel/daytrip', 'meeting friends/relatives', 'celebration/party' or, to a lesser extent, 'business'. Public holidays such as Labour day (1st May), Liberation day (30th April) and Independence day (2nd October) and days of national or international significance, such as Women's day (8th March), Youth day (12th August) and Christmas, were also popular occasions for wild meat; almost a sixth of events were reported to be marking such a day, around a quarter of which took place around lunar new year (*Tết*).

Figure 4.9 Percentage of events (n=207) according to description of the occasion given:



4.3.2.5. Changing Context

Alongside other social and economic transformations, the context in which wild meat is eaten has changed considerably over the last quarter of a century (Table 4.5). Rather than hunting wild animals for subsistence during the relentless conflicts and grinding poverty that defined 1970s and 1980s Vietnam, consumers are now paying above the odds for the meat of wild animals in urban restaurant settings. Men posted in forested areas of Vietnam and Laos where they hunted wild animals, typically during wartime and times of shortage, account for the majority

who reported wild meat consumption over twenty years ago. Similarly, respondents who reported eating wild meat between ten and twenty years ago typically report hunting this meat in rural areas where they were living at the time or while posted in forested areas with the army.

Table 4.5 Summary of descriptions of past wild meat consumption according to time period in which reported[15]

Years ago	Details, starting with most frequently reported
1 > 2 (n=22)	Restaurant in Hanoi or Ha Tay tourism/visiting other provinces, bought and ate at home
3 > 5 (n=26)	Tourism/visiting other provinces, bought and ate at home, restaurants in Hanoi or Ha Tay, hunted/caught
6 > 20 (n=7)	Hunted/caught, ate while in the army
20+ (n=34)	Ate while in army/as youth volunteer/during wartime, hunted/caught

In contrast, those who report eating wild meat less than five years ago echo modern descriptions. Today eating wild meat is widely considered to be a new trend, related by interviewees to increasing disposable incomes:

> Retired female farmer aged 72:
> *Int: There are many restaurants in Hanoi that sell exotic dishes from wild animals and the meat is quite expensive. Was this the case when you were our age?*
> *CN22: In the past there were a few, now there are many. I don't eat at restaurants or anything. When I went to Central Vietnam, I ate seafood. I don't eat wild meat in Hanoi because I don't like, also it's not suitable for me (indicating her teeth).*
> *Int: Why do you think there are many more restaurants like that?*
> *CN22: Now that the economy has grown, people have more money. In the past ordinary people like farmers rarely had any chance to go to hotels, restaurants. Now hotels are more modern and provide more kinds of food like wild meat. In the past there were a few. When I was young I did not hear about specialty, or wild meat.*

> Female student aged 19:
> *Int: Have you ever eaten meat from wild animals?*
> *CN03: Actually, I am quite a picky person when it comes to food [...]. Furthermore, I don't think eating wild meat is a good idea. But eating snakes, soft shell turtle or crocodile is a new trend now. People farm these animals for food, but I don't think people should do that. Actually, it's very expensive to eat those kinds of meat. I don't know how to say but I think people should not do that.*
> *Int: Why do you think it's not a good idea?*
> *CN03: Actually, if all things considered, those are lovely animals [...] Vietnamese people for a long time now usually eat beef, pork and chicken but now as our economy develops, people have adopted many new dishes such as crocodile, turtle. Actually, our grandparent's generation never ate those things.*

> Male professional and consumer aged 24:
> *Int: Do you think people in Hanoi have always eaten wild meat in restaurants?*
> *WM30: I think it is a new trend because Vietnam today has developed so Vietnamese people's living needs are rising gradually. Their income is getting higher. So what they like, they want to buy [...] Because of their higher income, they want to eat special dishes.*

[15] An approximate third of the 25.4% of respondents who reported wild meat consumption in the period prior to the last twelve months gave brief descriptions of past events of consumption.

4.4. Discussion

4.4.1. The Scale of Wild Animal Product Consumption

Wild meat is the dominant form of wild animal consumption by those living in central Hanoi, a finding corresponding with other studies in Vietnam (Nguyen 2003; Venkataraman 2007). Recent studies in China found higher proportions of urban residents eating wild meat in the last year: 31% of residents surveyed in cities in Southwest China and 42% of residents in Guangzhou reported eating wild meat in the last year (Guo 2007; Zhang et al. 2008). However, most studies measure wild meat eaten during a respondent's lifetime (WPAC 2000 in Nooren and Claridge 2000; Wu et al. 2001 in Guo, 2007; Venkataraman 2007), making comparisons of overall scale impossible. The findings suggest consumer demand for wild meat in central Hanoi, and potentially in other Vietnamese urban centres, is a significant driver of illegal trade in wild animal species consumed as wild meat. Alongside demand from Chinese markets, this provides an ongoing incentive to illegally harvest and trade Southeast Asian fauna to urban areas and to shift away from local subsistence use.

Demand for wild meat is also considered the primary driver of wild animal harvesting in many African (e.g. Bakarr et al. 2002; Barnett et al. 2002; Mendelson et al. 2003; Kumpel 2006; Schenck et al. 2006) and neotropical countries (e.g. Peres 2000; Fa et al. 2002; Leon & Montiel 2008). However, the majority of wild meat consumers in African countries rely on wild meat on a daily basis to improve or uphold food and economic security (Barnett 2000: 21; de Merode et al. 2004). Many forest dwelling populations in Asia and the Americas, for whom cheaper alternatives are not accessible, also depend on wild meat for subsistence (Bennett 2002; Leon & Montiel 2008). Similarly, while many wild animal species are predominantly harvested for wild meat in northeast India (Hilaluddin & Ghose 2005) and the western Indian Himalayas (Kaul et al. 2004), most is believed to be for subsistence with only a limited amount serving demand from urban centres.

Despite high overall proportions of central Hanoian respondents reporting wild meat consumption relatively few reported eating wild meat frequently, corresponding to studies in urban China (Wu et al. 2001 in Guo 2007; CWCA &

WildAid 2005; Guo 2007) and previous research in Vietnam (Venkataraman 2007). This reflects the role of wild meat as a relatively inaccessible 'luxury' product amongst central Hanoians as opposed to an essential source of animal protein in the absence of alternatives.

The results conflict with Venkataraman's (2007) relatively conservative finding of around a quarter of Hanoians reporting consuming a wild animal medicinal product in their lifetime. But focusing solely on bear bile and therefore perhaps achieving a more accurate measure of its use, Nguyen and Reeves (2005) also found a relatively large proportion (30%) of Hanoians specifically reporting bear bile use within the last year. Bears exploited regularly for bile suffer high mortality, yet there is limited evidence for captive breeding (Cochrane & Robinson 2002; Li 2004; Robinson et al. 2006). Demand for bear bile amongst central Hanoians is therefore likely to be exerting significant pressure on wild bear populations.

Besides bear bile there were relatively few reports of consumption of other medicinal products and, excluding honey, all medicinal products reported were derived from vertebrates. This suggests the survey failed to capture the use of invertebrate species commonly found on traditional medicine markets such as scorpions and silkworms, and marine invertebrates such as seahorses and starfish (Nguyen & Nguyen 2008). It is also possible that consumers are unaware of what the medicines they use contain in terms of wild animal derivates (e.g. Lee et al. 1998) resulting in under-reporting. However, although traditional medicine is often cited as a major threat to Southeast Asian fauna, these results suggest that demand for traditional medicine is not a primary driver of trade in vertebrate species also widely consumed as wild meat.

Alcoholic drinks infused with wild animal-derivatives are reported by other researchers to often accompany wild meat in Vietnam (Roberton 2004; Venkataraman 2007), suggesting the consumption of these drinks may have been under-reported in this research. However their ornamental role in restaurants and homes may also be under-estimated; a jar of alcohol containing a wild animal is often placed conspicuously in many Vietnamese homes and restaurants (Craig

2002; pers. obs.), but it is possible that the alcohol itself is not consumed regularly (see also Chapter 5).

It is recognised that pets and primarily ornamental products comprise a relatively small component of demand for wild animals in Vietnam (e.g. Compton & Le 1998; Venkataraman 2007), and the results presented here confirm this. This contrasts with findings in with other regions of Southeast Asia, such as Sumatra, where trade for pets comprises the majority of trade in wild fauna (Shepherd et al. 2004). Demand for exotic pets also comprises a significant component of demand for wild animals in Europe (Engler & Parry-Jones 2007), North America (Roe 2008) and Russia (Chestin 1998).

The trade in live wild birds was by far the largest component of live wild animals reported bought or received by central Hanoians in the last year. This is unsurprising given the high proportion of households keeping caged birds (pers. obs.). In Indonesia the popularity of keeping certain species of native song-bird in urban households is believed to be driving extinctions across the country (Shepherd et al. 2004; Jepson & Ladle 2006). Trade in wild birds to supply demand in Hanoi may pose a threat to bird species in the Southeast Asian peninsula, although not to the extent as in Indonesia (Shepherd et al. 2004; Jepson & Ladle 2006), and warrants further research. Trade in wild birds may also pose a threat in terms of the transmission of Avian Influenza.

The species that Hanoian consumers most commonly report eating in the last year correspond with findings of similar recent survey of Hanoi residents (Venkataraman 2007), while comparable proportions of all but porcupine were also reported eaten by consumers in Guangzhou in the same timeframe (Guo 2007). Surprisingly few respondents report eating the meat of monitor lizards (*Varanus* spp.), but since over a sixth of respondents in Guangzhou reported consuming meat from lizard species - including monitors - in the last year, it is possible that monitor lizards were under-reported by Hanoians. The small numbers who reporting eating highly endangered species also corresponds with findings in Guangzhou where less than 5% of respondents reported eating bear

meat, 3% monkey meat and less than 1% tiger meat in their lifetimes (Guo 2007); these low levels nevertheless pose a considerable threat to these vulnerable species.

From these data it is extremely difficult to estimate the impact of consumption on wild populations. For example, while one respondent reporting the consumption of one civet or bamboo rat might realistically be interpreted as the consumption of one animal, this assumption would be unreasonable for larger animals such as deer or wild pig or for the consumption of most medicinal and ornamental products. Moreover, captive breeding supplies some component of certain species in trade (Nguyen & Nguyen 2008) and it is difficult to determine what proportion of reported consumption refers to animals originating on farms. Nevertheless, the results demonstrate a significant demand in Hanoi for wild meat and wild animal products such as bear bile, providing an ongoing incentive to illegally harvest and trade Southeast Asian fauna.

These findings rely on self-reporting and will therefore be subject to inaccurate reports, whether deliberate and accidental. When serving non-regular customers restaurateurs in Quang Nam province, for example, report substituting sambar meat with beef or muntjac because many consumers cannot discern between them (Roberton et al. 2004). Indeed, qualitative findings suggest some reports are likely to be in fact of items not derived from wild animals, suggesting the actual scale of wild animal consumption may be lower than recorded. Without testing wild animal goods or observing wild meat consumption first hand, the proportion of genuine reports cannot be confirmed. But that almost a quarter of respondents believe they have consumed, and are likely to have therefore paid a relatively high price for, wild animal products in the last year is nevertheless testament to the scale of demand for wild animals amongst central Hanoians.

Moreover, although false reports may have amplified the reported scale of consumption, analysis of the sample survey suggests the reported scale of consumption of both wild meat and medicinal wild animal products may have in fact been higher had the sample been more representative. Those working as

government officials, finance and business professionals and in the armed forces or police, and those belonging to higher income groups were significantly more likely to have reported eating wild meat (Chapter 5), but those working in these occupations and earning high incomes are also those under-represented in the survey sample (Chapter 3). Similarly, those with higher education levels were significantly more likely to report consumption of wild animal-derived medicines (Chapter 5) but the educational attainment of the survey sample was lower than the central Hanoi population (Chapter 3).

4.4.2. The Context of Wild Meat Consumption

Wild meat is predominantly eaten in expensive, urban restaurant settings by central Hanoians, a finding corresponding with studies of urban wild meat consumers in China (Guo 2007; Xu et al. 2007; Zhang et al. 2008) and Vietnam (Venkataraman 2007). A limited amount of wild meat is reported served in expensive restaurants in urban Equatorial Guinea (Kumpel 2006) while an Indian newspaper recently reported restaurants on the outskirts of urban towns in southern India serving wild meat to the local elite (The Times of India 2008). But in Equatorial Guinea and in Ghana wild meat is predominantly served in more affordable cafes or chopbars (Mendelson et al. 2003; Kumpel 2006) while, as noted already above, the majority of wild meat harvested in India is thought to be for local subsistence (Hilaluddin & Ghose 2005). Moreover, despite wild meat being more expensive than domestic meat in urban Mozambique, Malawi and Zambia, the majority available is sold on markets for home consumption rather than in eaten in restaurant settings (e.g. Barnett 2000).

A recent survey of Hanoians found that over two-thirds of respondents believed eating wild meat was “popular” and “fashionable”, while the majority also thought wild meat consumption in the city was increasing (Venkataraman 2007: 12). Interviewees directly connect this “new fashion” for wild meat to rising disposable incomes, further supporting the prediction that, as Vietnam continues to experience exceptionally fast economic growth, demand for wild meat will follow suit. A rise in wild animal consumption with increasing income has been noted elsewhere in Asia (World Bank 2005; TRAFFIC 2008) and in Africa (Wilkie et al.

2005), but the fashionable dimension of wild meat consumption has, as far as I am aware, only previously been reported on an anecdotal basis elsewhere in East Asia (e.g. TRAFFIC/WCS 2004).

The findings contrast with previous research reporting the majority of Hanoian consumers eat "wild animal foods" with relatives, a quarter with business contacts and a sixth with friends (Venkataraman 2007). This discrepancy can partly be explained by the fact that, rather than look at the proportion of *events*, the latter reports on the *percentage of respondents* asked what type of company they *typically* ate wild animal foods with. While many consumers do eat wild meat with their families, this study also shows that many consumers - particularly male and high-earning consumers - share a larger number of wild meat *events* in the company of friends than with family.

Given the role of wild meat in business (see Chapter 5), it is surprising that relatively few wild meat events were identified specifically as business occasions or in the company of colleagues. Rather, the majority of occasions for wild meat were reported to be recreational and in the company of friends. But in urban China, Davis (2000a: 14) observes informal sociability, especially feasting, can be transformed into important economic and political networks. And although feasting plays an essential and immutable role in maintaining mutually beneficial relationships amongst Chinese, this involves considerable etiquette in order to disguise its more functional nature and to save 'face' including using special occasions such as New Year which, although superficially recreational, serve to lay the foundations for potentially advantageous social networks (Yang 1994). By hosting apparently informal and recreational wild meat meals, including those involving family on public holidays, Hanoians may also be building useful personal networks and gaining economic and social advantage from those with power; such events may ultimately serve personally profitable ends no less than those explicitly described as formal business occasions.

'Colleague' was also perhaps too narrow a term to encompass the many individuals who might use wild meat meals to nurture useful social alliances: individuals

involved might be better classed as 'business contacts' or even 'friends'**.** In urban China, for example, even corrupt behaviour, though widespread, is typically portrayed as the maintenance of beneficial 'friendships' (Stafford 2006). Venkataram's (2006) questionnaire distinguishes between colleagues and business contacts as response categories, and this perhaps helps explain why, compared to this study, it found fewer respondents reporting eating with friends but a higher proportion eating with business contacts; the author does not report the percentage eating with colleagues.

As already noted, those in occupations that are also more likely to be involved in such exchanges (see Chapter 5) are also likely to be under-represented in the survey sample (Chapter 3). Nevertheless, it is clear from both the findings of this study and of Venkataraman (2007) that wild meat is most frequently eaten in more informal and apparently recreational contexts with family and friends, and to a lesser extent on formal occasions with business partners and colleagues. Interventions should therefore focus on reducing demand for 'recreational' wild meat consumption in addition to the more obviously formal business situations in which, to a lesser extent, it is also consumed.

Lower-earners and women tend to eat wild meat with family members while the latter tend also to eat it in either their own or another family member's home; it is likely that wild meat meals eaten with relatives are focused around family events such as lunar New Year, birthdays and other public holidays. The role wild meat plays in celebrations and festivals is unsurprising given the observation that Hanoians increasingly celebrate birthdays with special and elaborate meals (Davis & Sensenbrenner 2000). Moreover, around the world, foods consumed on special occasions are often expensive, rare and of animal origin (Jelliffe 1967). In urban Ghana, for example, wild meat use is reported to be greatest during festivals and holidays (Mendelson et al. 2003). Campaigns to reduce demand for wild meat should therefore perhaps be timed to coincide with such occasions.

The role of wild animals in foreign tourism is not novel in Southeast Asia. In Laos wildlife products are said to be an attraction for both domestic and international

tourists, particularly Chinese and Thai, while Vietnam has also been reported to be a destination for Taiwanese tourists on 'wildlife eating tours' (Highley & Highley 1994). Srikosamatara et al. (1992) report Thai tourists being targeted by those selling wildlife trophies such as antlers at border crossings and markets, crossing borders overland to avoid checks or paying Lao Customs officials a fee. Marine turtles have also been documented for sale in airport shops in Hanoi targeting foreign buyers from China, Hong Kong, Japan, Taiwan and South Korea (Anon 2004). In southern Sumatra, home to a large ethnic Chinese population, Chinese tourists are reported to have been offered tiger meat (Tilson & Traylor-Holzen 1994 in Shepherd & Magnus 2004). Tourists, predominantly Belgians and Germans, visiting South Africa indicated they would like to try game meat as part of the 'Africa experience' (Hoffman et al. 2003 in Hoffman & Wiklund 2006).

But the wide range of locations reported for wild meat events reflects one of the most significant changes resulting from economic renovation: increased mobility and the emergence of domestic tourism (Thomas & Drummond 2003; Truitt 2008). The opportunities provided by newly mobile tourists have not been missed by the locals (Soucy 2003) and the marketing of expensive and unusual "traditional specialities" by savvy entrepreneurs is partly responsible for the availability of wild meat around tourist sites such as the Perfume Pagoda, i.e. these restaurateurs are drawing on, or even creating, a custom of trying "specialties" of the area one is visiting.

Tong (2007) considers wildlife part of traditional Chinese food culture. But although presented as authentic, it is recognised that many 'traditions' are often more recent inventions retrospectively created to serve contemporary purposes and are especially associated with need for reinvention of identity during rapid social-economic transformation (Hobsbawm & Ranger 1992). 'Traditional' wild animal-based foods and medicines being reinvented for economic gain in China has already been suggested (Lo 2005). Mass pilgrimages to religious sites are also a new phenomenon, enabled by recently heightened mobility and religious freedom (Taylor 2004) that has been related to a need to assert Vietnamese identity in an increasingly global society (Soucy 2003). Likewise, while 'local' and 'traditional'

wild meat "specialities" at Vietnamese tourism sites may be testament to the entrepreneurial talents of the locals, they may also result from a need to reinforce national identity in a rapidly changing socio-economic climate**.** Urban Vietnamese are also increasingly romanticising rural life and the countryside (Drummond 2003), and eating 'traditional' wild meat may be a way for urbanites to connect with their perceived rural past. Similarly, nostalgia for a lost cultural past - real or supposed - and the need to forge a cultural identity in foreign surroundings might help explain demand for wild meat amongst some African immigrants in cities such as New York and Paris (e.g. Milius 2005).

5. Identifying Urban Consumers Of Wild Animal Products

5.1. Introduction

5.1.1. The Characteristics of Consumers

Despite increasing emphasis on consumer-targeted interventions aiming to reduce urban demand for wild animals, only recently have consumers become the focus of research. Due to the scale of demand for wild animals in China, studies to date have concentrated on urban Chinese consumers; some of these studies were not accessible directly but are reviewed by Guo (2007). Although a significant proportion of wild meat in urban centres across the tropics is reported to be 'luxury trade' (Bennett 2002), there have, as far as the author is aware, been no detailed studies of urban consumers in Africa or the Americas. Indeed, the recent focus on urban consumers in Vietnam and China perhaps reflects the higher proportion of demand for wild animals emerging from towns and cities compared to rural areas in this region. For example, in Vietnam, subsistence use of many wild animal species has almost wholly shifted to commercial trade serving the growing urban middle classes (Compton & Le 1998; SFNC 2003: 7; Donovan 2004; Roberton 2004). In contrast, the majority of demand for wild meat in many African and Neotropical countries is driven by subsistence needs in the absence of accessible alternatives (e.g. Apaza et al. 2002; Barnett et al. 2002; de Merode et al. 2004; Wilkie et al. 2005; Jambiya et al. 2007; Leon & Montiel 2008).

In China, Wu et al. (2001: 10) found wild meat was most popular amongst highly educated individuals earning high incomes. In contrast, CWCA/PKU (unpublished in Guo 2007: 10) document a negative relationship between wild meat consumption and education but reports major consumers as managers in government, state-owned organisations and enterprise; most recently, in Guangzhou, Guo (2007) identified men aged between forty and sixty years as the heaviest consumers of wild meat, and managers and businessman, followed by government officers and professionals, and those with the highest incomes as reporting the most wild meat consumption, but found no relationship between education and consumption. Guo (2007) concludes the richest and highest status consumers have more opportunities to eat wild meat.

In Vietnam, information about consumers is often a by-product of research into wildlife trade; although valuable, this information rarely comes directly from consumers themselves, but from restaurateurs or wildlife traders. For example, during investigations into wildlife trade activity in Quang Binh and Quang Nam provinces, the main customers of wild meat restaurants were reported to be businessmen, government officials and those travelling 'Highway 1' (Roberton 2004; Roberton et al. 2004: 14); surveys of large wild meat restaurants in Nghe An province found customers mainly to be males earning mid-high incomes including company directors, businessmen and government officials, but that smaller restaurants with cheaper prices draw customers from a wider range incomes and ranks (SFNC 2003: 36). A recent survey of two thousand Hanoians suggests men, wealthy individuals, highly educated residents, entrepreneurs, government officials and senior managers were most likely to report using wild animal products, but found no relationship between age and consumption (Venkataraman 2007). None of the above studies use multivariate analysis to identify the characteristics of wild animal consumers; this is the first study of urban consumers of wild meat to do so, and to explore consumer characteristics further using additional qualitative methods.

5.2. Methods

Data presented in this chapter are drawn from both the questionnaire survey and SSIs with both wild meat consumers and the central Hanoi public (see Chapter 3). Due to the dominance of wild meat and wild animal-derived medicinal products, and the relative infrequency of consumption of other wild animal products (Chapter 4), this chapter focuses on wild meat and medicinal products.

Pearson's chi-square is used to look for significant differences in reported consumption between categorical variables. Logistic regression is used to explore the predictive value of age on reported consumption; because some occupation groups are too small to satisfy the assumptions of a chi-square test, logistic regression using dummy variables is also used to examine the role of occupation. Multiple logistic regression is also employed to determine the roles of multiple predictors on whether or not a respondent reported consuming wild meat or a

wild animal-derived medicinal product in the last twelve months. Although wild meat and wild animal-derived medicinal products are analysed separately, the results are presented and discussed together.

5.3. Results

Respondents who reported eating wild meat in the last year were significantly more likely to also report consumption of a wild animal-derived medicinal product other than wild meat (χ^2 [1]=27.81, p<.01). This suggests consumers of wild meat and consumers of wild animal-derived medical products share similar characteristics, but the following analyses show there are some important differences.

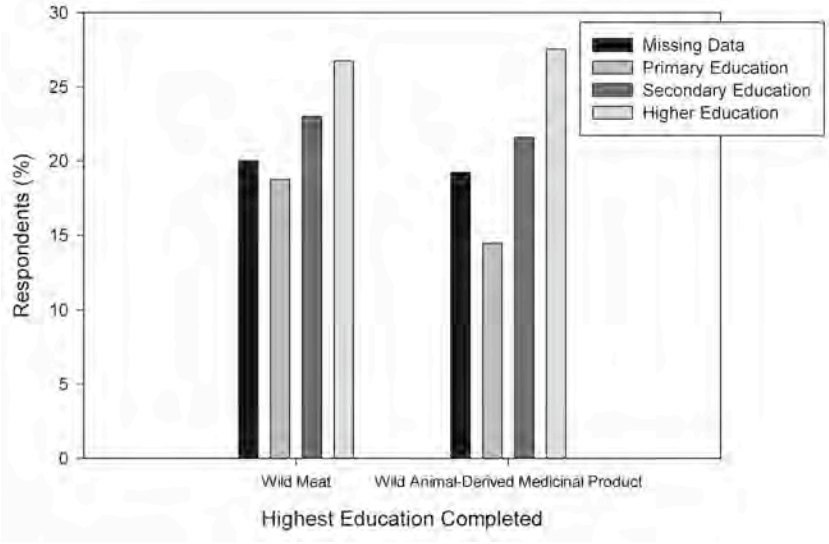
Significantly more men than women (χ^2[1]=7.72, p<.01) report eating wild meat in the last twelve months, but there is no significant difference between the sexes in reported consumption of a wild animal-derived medicinal product. Age predicts whether or not a respondent reported consuming wild meat (p<.01) or a wild animal-derived medicinal product (p<.05; Table 5.1) but its effect is extremely slight: with increasing age there is a small reduction in the likelihood a respondent reported consumption of wild meat and a small rise in the likelihood a respondent reported consuming a wild animal-derived medicinal product. This effect appears to be confined to men with regards to wild meat (Table 5.1). There are also significant differences in the proportions of respondents reporting consumption of wild animal-derived medicinal products according to education (χ^2[2]=12.69, p<.01); the amount reporting consumption rises with education level (Figure 5.1). Although a similar pattern is seen for wild meat, the differences between education groups are not significant (Figure 5.1).

Table 5.1 Logistic regression showing the effect of age on whether or not a respondent reported consumption of wild meat or a wild animal-derived medicinal product (n=915)

Predictor variables	**Wild Meat**						**Wild Animal-Derived Medicinal Products**		
	a). All Respondents			**b). Men Only**					
	B(SE)	**Sig.**	**Exp(B)**	**B(SE)**	**Sig.**	**Exp(B)**	**B(SE)**	**Sig.**	**Exp(B)**
Age	-0.01 (0.01)	.01**	0.99	-.02 (0.01)	.00**	0.98	0.01 (0.01)	.02*	1.01
Constant	-0.67 (0.22)	.00	0.51	-.18 (0.30)	.56	0.84	-1.80 (0.23)	.00	0.17

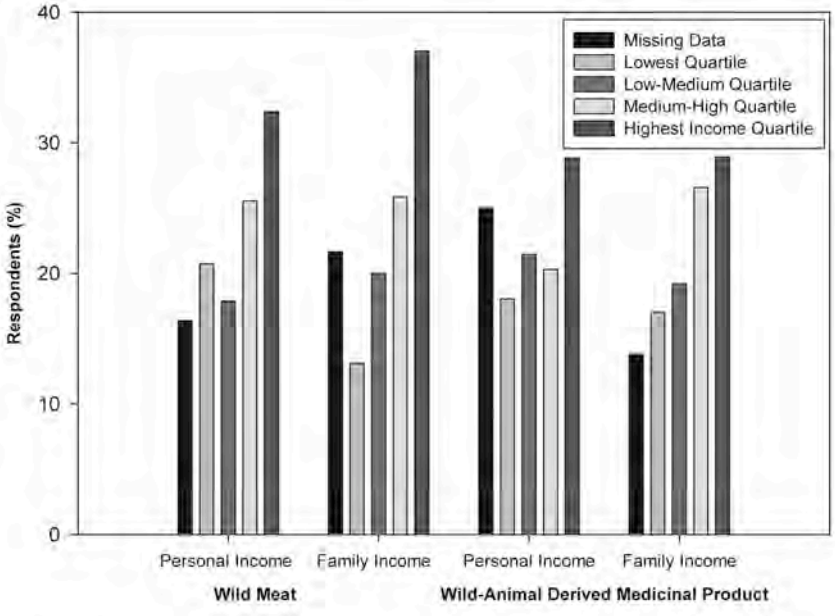
Wild Meat: a). Model $\chi^2(1) = 6.82$ p<.01. R^2 .39 (Hosmer & Lemeshow), .01 (Cox & Snell), .01 (Nagelkerke). b). Model $\chi^2(1) = 8.79$ p<.01. R^2 .07 (Hosmer & Lemeshow), .02 (Cox & Snell), .03 (Nagelkerke). Wild Animal-Derived Medicinal Products: Model $\chi^2(1) = 5.64$ p<.05. R^2 .30 (Hosmer & Lemeshow), .01 (Cox & Snell), .01 (Nagelkerke). *p<.05, **p<.01

Figure 5.1 Percentage of respondents reporting consumption of wild meat or a wild animal-derived medicinal product according to highest education completed (n=915)



The percentage of respondents reporting consumption of wild meat differs significantly between personal income ($\chi^2[3]=14.83$, $p<.01$) and family income ($\chi^2[3]= 22.76$, $p<.01$) quartiles, the number reporting consumption rising with income; although a similar trend is observed for wild animal-derived medicinal products, no significant differentiation in the quantity reporting consumption of medicinal products exists between either personal income or family income quartiles (Figure 5.2).

Figure 5.2 Percentage of respondents in each personal income and family income quartile who reported eating wild meat or a wild animal-derived medicinal product other than wild meat in the last twelve months (n=915):



Despite there being significant differences in reported wild meat consumption between family income quartiles amongst both men ($\chi^2[3]=9.51$, $p<.05$) and women ($\chi^2[3] =11.92$, $p<.01$), significant differences in reported wild meat consumption between personal income quartiles only exist amongst men ($\chi^2[3] =12.88$, $p<.01$; Figure 5.3). Because the host of any meal in Hanoi is typically responsible for the bill (pers. obs.), not only are men more likely to initiate wild meals (see Section 5.3.2), they are therefore also more likely to be paying for them. It is therefore unsurprising that personal income determines wild meat consumption amongst men only whereas family income determines wild meat access for both men and women; because women rarely, if ever, pay for wild meat, but are significantly more likely to report eating with family members than men (Chapter 4), their family income is related to consumption but their personal income is largely irrelevant. In contrast, no significant difference in reported consumption of a wild animal product other than wild meat exists between family income or personal income quartiles either amongst men or women.

To illustrate the effects of income on wild meat consumption more fully, we also need to look beyond the income quartiles to the highest earners. A high proportion of respondents earning over 5m and 10m VND[16] also report eating wild meat, demonstrating it is not only respondents in the top 50% in terms of income that spend money on wild meat but that it is also favoured amongst the very highest earners (Figure 5.4). There are significant differences between both the personal income groups ($\chi^2[2] =24.54$, $p<.01$) and family income groups ($\chi^2[2] =14.60$, $p<.01$) with regards to the proportion of respondents reporting wild meat consumption. No comparable trend can be seen for consumption of wild animal-derived medicinal products (Figure 5.4).

[16] During the data collection period 1GBP was equivalent to 26,000 - 30,000VND (pers. obs).

Figure 5.3 Percentage of respondents in each personal and family income quartile who reported eating wild meat in the last twelve months according to sex (n=902):

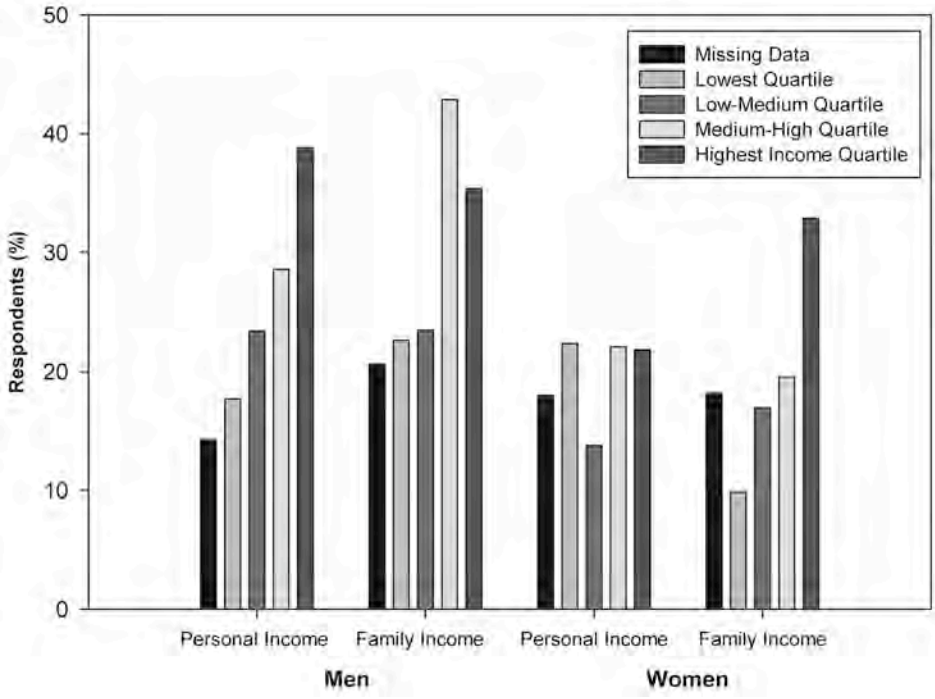
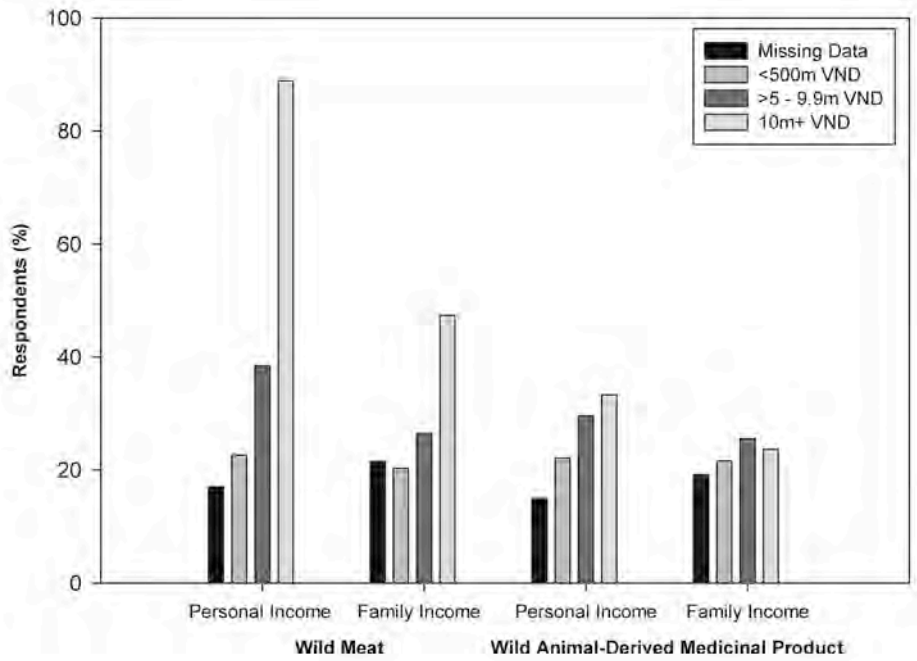


Figure 5.4 Percentage of respondents who reported eating wild meat or consumed a wild animal product other than wild meat in the last twelve months according to personal and family income (n=915):



Closer investigation of specific livelihoods reported within each occupation category reveals important differences within the professionals and business group. A significantly higher proportion of business people ($\chi^2[1] = 7.23$, $p<.05$) and of professionals working in the financial sector including accountants, financial traders and finance officers ($\chi^2[1] = 6.17$, $p<.05$) report eating wild meat compared to those working in non-financial professions such as pharmacy, engineering and design. For this reason, these occupations are divided in all subsequent analysis. No significant differences were found between occupations reported within other questionnaire categories.

The highest proportions of those reporting wild meat consumption work in the armed forces or police (n=4), as clerks, businesspeople or as a finance professionals; for each group this relationship appears largely restricted to male respondents (Figure 5.5). Indeed, Business people (p<.00), finance professionals (p<.00), clerks (p<.05) and members of the armed forces/police (p<.05) are significantly more likely to have reported wild meat consumption than service workers (Table 5.2).

Table 5.2 Logistic regression showing the effect of occupation on whether or not a respondent reported wild meat consumption (n=890)

Predictor variables		**B(SE)**	**Sig.**	**Exp(B)**
Occupation (Reference: Service workers)	Armed forces/Police	2.41 (1.16)	.04*	11.17
	Business people	1.19 (0.38)	.00**	3.28
	Finance Professionals	1.39 (0.42)	.00**	4.03
	Non-finance professionals	-0.72 (0.39)	.86	0.93
	Clerks	1.18 (0.53)	.03*	3.26
	Skilled Workers	0.10 (0.24)	.68	1.10
	Unskilled workers	-0.39 (0.41)	.33	0.68
	Unemployed	0.62 (0.56)	.27	1.86
	Students	-0.34 (0.51)	.51	0.72
	Housework/Care	0.43 (0.47)	.36	1.53
	Retired	-0.34 (0.26)	.19	0.72
Constant		-1.31 (0.13)	.00	0.27

Model $\chi^2(11) = 36.83$ p<.01. R^2 1.00 (Hosmer & Lemeshow), .04 (Cox & Snell), .06 (Nagelkerke). *p<.05, **p<.01

Figure 5.5 Percentage of respondents in each occupation group reporting eating wild meat in the last twelve months (n=890)

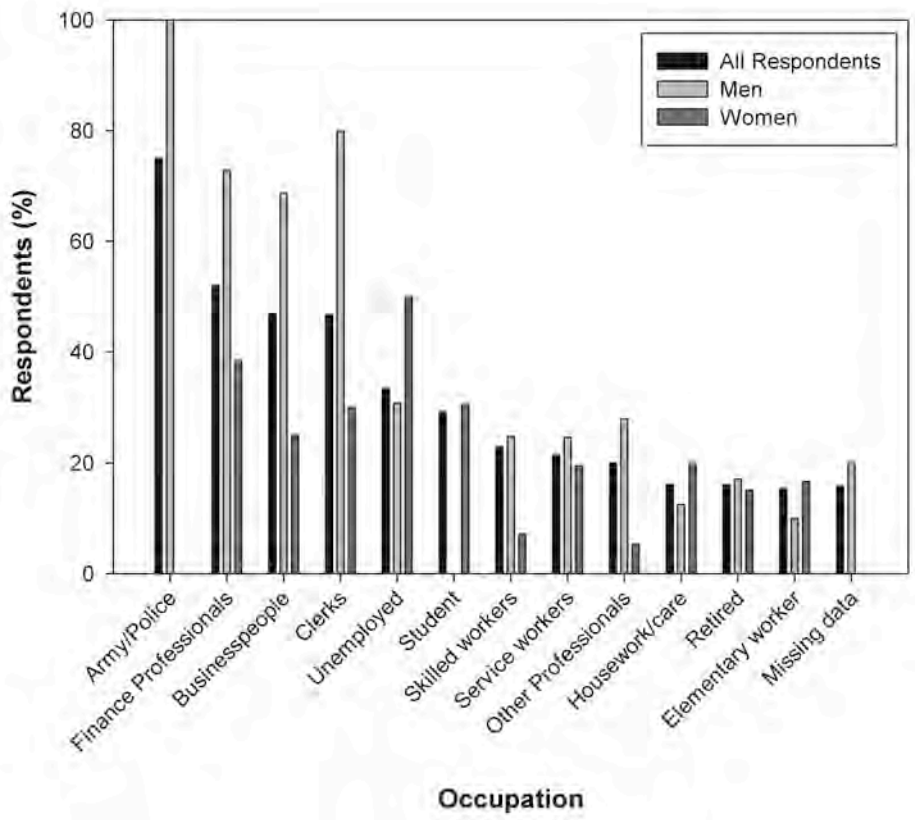
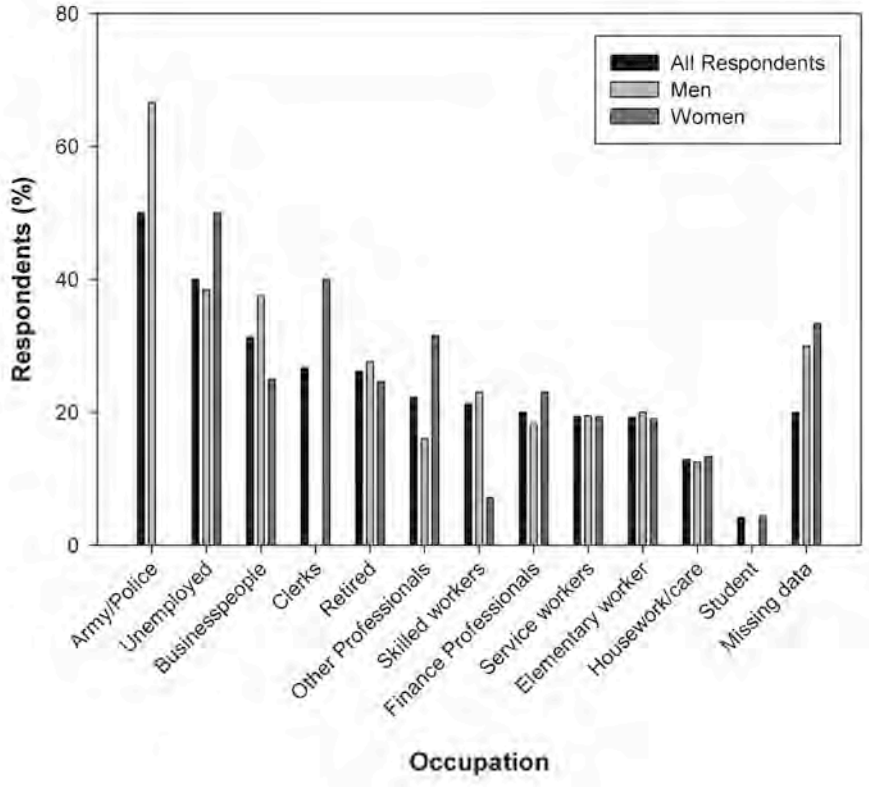


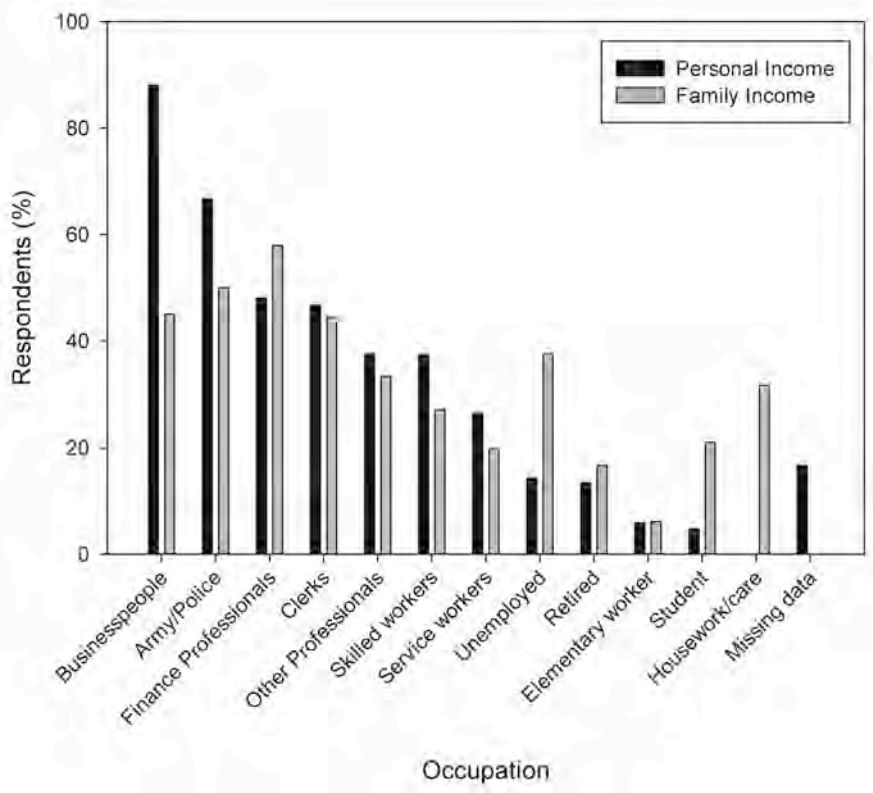
Figure 5.6 Percentage of respondents in each occupation group reporting consumption of a wild animal product other than wild meat in the last twelve months (n=890)



For wild animal-derived medicinal products, a large proportion of armed forces/police and businesspeople also report consumption (Figure 5.6) but, in contrast to wild meat, occupation does not predict consumption. Another difference is that greater numbers of businesswomen and female clerks than businessmen and male clerks report consuming medicinal products, while the opposite is true for wild meat. Generally, however, the divergence between men and women in terms of the amount reporting consumption is smaller for wild animal-derived medicines than it is for wild meat. Interestingly, a higher percentage of retirees report consuming medicinal products than report eating wild meat.

The apparent relationship between certain occupations and wild animal consumption may in fact reflect the higher incomes earned by those in these groups rather than occupation per se (Figure 5.7). Similarly, despite significantly more respondents born in an urban centres compared to those born in rural areas reporting eating wild meat ($\chi^2[1]=9.75$, $p<.01$), there are also significant differences between the personal incomes ($\chi^2[3]=20.01$, $p<.01$) and family incomes ($\chi^2[3]=18.29$, $p<.01$) of those born in urban and rural areas; this difference in wild meat consumption may therefore actually be a product of differing wealth rather than birthplace. Likewise, although initial analyses suggest no, or only a limited, effect of age on consumption, a true effect may be being masked by, for example, a disproportionately high number of young respondents belonging to higher income quartiles or occupation groups linked with consumption. To determine the importance of individual variables on consumption of wild animal products while controlling for the effects of other variables, multivariate analysis is therefore presented below.

Figure 5.7 Percentage of respondents in each occupation category in the highest personal income (n=799) and family income (n=543) quartiles:



5.3.1. Multivariate Analysis

Whether or not a respondent reported eating wild meat in the last twelve months is significantly correlated to being male ($p<.01$); belonging to the highest family income quartile ($p<.05$) or the second highest family income quartile ($p<.05$) compared to belonging to the lowest; and working as a business person ($p<.05$) or finance professional ($p<.05$) rather than as a service worker (Table 5.3). Wildlife-related knowledge and awareness score is significantly negatively correlated with wild meat consumption ($p<.01$), but this finding and further results relevant to the relationship between wildlife-related knowledge and awareness and consumption of wild animal products are presented and discussed in Chapter 8. Also note that, although not significant, working in the armed forces or police (n=4) compared to working in the service industry has the highest odds ratio of all the occupation groups. Despite contributing to the overall fit of the model and earlier analysis detecting a small effect of age on wild meat consumption, when controlling for the effects of other important variables age has no significant relationship with consumption. No other predictors contributed to the ability of the model to predict the outcome and so were excluded.

Table 5.3 Logistic regressions showing the role of respondent characteristics on consumption of a). wild meat and b). wild animal-derived medicines in the last 12 months

Predictor variables		a). Wild Meat			b). Wild Animal-Derived Medicinal Products		
		B(SE)	Sig.	Exp(B)	B(SE)	Sig.	Exp(B)
Age (Years)		-0.01 (0.01)	.47	1.00	0.02 (0.01)	.02*	1.02
Family income (Reference: Lowest-earning quartile)	Non-responses	0.47 (0.29)	.11	1.60	0.04 (0.27)	.88	1.04
	Second lowest-earning quartile	0.25 (0.36)	.49	1.28	0.04 (0.33)	.91	1.04
	Second highest-earning quartile	0.78 (0.33)	.02*	2.18	0.43 (0.31)	.16	1.54
	Highest-earning quartile	1.10 (0.33)	.00**	3.01	0.51 (0.32)	.11	1.67
Occupation (Reference: Service workers)	Armed Forces & Police	1.97 (1.18)	.10	7.14	1.09 (1.04)	.29	2.98
	Business people	1.22 (0.41)	.00**	3.39	0.29 (0.42)	.49	1.34
	Finance Professionals	1.34 (0.46)	.00**	3.81	-0.39 (0.54)	.48	0.77
	Non-finance professionals	-0.47 (0.48)	.32	0.62	-0.42 (0.43)	.48	0.68
	Clerks	0.99 (0.58)	.09	2.68	0.04 (0.62)	.96	1.04
	Skilled Workers	-0.21 (0.27)	.46	1.37	0.13 (0.25)	.62	1.13
	Unskilled workers	-0.03 (0.43)	.94	0.81	0.34 (0.40)	.39	1.41
	Unemployed	0.29 (0.59)	.62	1.33	1.00 (0.56)	.07	2.72
	Students	-0.27 (0.54)	.61	0.76	-0.54 (0.57)	.34	0.58
	Housework/Care	0.48 (0.52)	.36	1.62	-1.84 (1.03)	.08	0.16
	Retired	-0.07 (0.33)	.84	9.36	-0.01 (0.29)	.99	0.99
Sex (Reference: Women)		0.71 (0.20)	.00**	2.04	-	-	-
Wildlife-Related Knowledge/Awareness (Score)		-0.14 (0.04)	.00**	0.86	-	-	-
Education (Reference: Not completed secondary education)	Non-responses	-	-	-	1.32 (0.59)	.02*	3.75
	Completed secondary education	-	-	-	0.64 (0.24)	.00**	1.90
	Completed higher education	-	-	-	0.96 (0.27)	.00**	2.62
Constant		-1.15 (0.42)	.00	0.32	-3.37 (0.54)	.00	0.03

a). Wild Meat: Model $\chi^2(18) = 75.75$ p<.01. R^2 .25 (Hosmer & Lemeshow), .09 (Cox & Snell), .13 (Nagelkerke); b). Wild Animal-derived medicinal products: Model $\chi^2(19) = 43.90$ p<.01. R^2 .70 (Hosmer & Lemeshow), .05 (Cox & Snell), .07 (Nagelkerke). **p<.01, *p<.05

Largely corresponding with earlier analyses, consuming a wild animal-derived medicinal product in the last twelve months is significantly related to having completed higher education ($p<.01$), secondary education ($p<.05$) or belonging to the non-response group for education compared to having not completed secondary education ($p<.05$), and is also positively related to respondent age ($p<.05$). Neither occupation nor family income had a significant influence on consumption of wild animal-derived medicinal products, and no further predictors contributed to the model.

5.3.2. Sex

Although multiple regression predicts men are 1.7 times as likely as women to report eating wild meat in the last twelve months, gender plays no significant role in consumption of wild animal-derived medicinal products (Table 5.3). Both men and women generally consider wild meat a male food typically associated with male activities such as drinking alcohol and, for some, using prostitutes (pers. comm. Roberton S.); restaurants serving wild meat often have private rooms for such parties. A few interviewees describe the wider context of wild meat consumption within these additional male pastimes:

> Male professional aged 25 describes men, particularly businessmen, celebrating[17]:
> *WM28: They go to bars, they dance, and then they go to 'massage' centres […] Maybe they go to a restaurant to eat wild meat and then go to 'massage' together…it's a habit, an official ritual for the businessmen. Always they're singing karaoke, drinking beer, getting drunk.*

> Businessman aged 39, often takes business partners to wild meat restaurants:
> *Interviewer: why do you travel to restaurants outside Hanoi?*
> *WM11: Because it is easy to relax and* (coy, laughing) *to do anything we want for fun.*

Most female consumers interviewed were invited to eat wild meat by male colleagues, friends or family members; and compared to male consumers, women were generally less enthusiastic, less interested in, and less knowledgeable about, wild meat:

> Female clerk and wild meat consumer aged 28:
> *Int: Have you ever invited somebody else for wild meat yourself?*
> *WM24: No, because most of the time other people invited me. Women are less interested in this than men [...] I don't choose. There are some men in my office who usually go, so they introduce to eat at some restaurants. They often book, and then we go. I'm not very interested in this sort of thing, I just go for the experience.*

[17] Interviewed in English.

Retired female consumer aged 73:
Int: Have you ever invited anyone to eat wild meat?
WM33: No, never. I just follow my classmates. We go in a big group of around twenty people [...] Some of them are businessmen and managers. Rich friends pay the bill, and women like me contribute some money as a share [...] I am a woman. Our male friends order wildlife dishes, so they may know about this [...] When I try the dishes, I imagine how delicious the dishes are. But the dishes do not taste as good as I think; their taste is like beef.

5.3.3. Income

The proportion of respondents reporting wild meat consumption in the last twelve months increases significantly with family income (Table 5.3). Correspondingly, most interviewees consider wild meat an expensive speciality and perceive wealth as one of the main characteristics of consumers (see also Chapter 6):

Female retired state officer and wild meat consumer aged 58:
Int: Did your parents eat wild meat in restaurants?
CN35: At the time they were poor [...] Not everyone can afford to eat in restaurants. Restaurants are for some people who have money. Wild meat is a speciality and expensive.

Male skilled worker aged 39:
Int: Who are the clients at these restaurants [in Xuan Mai]?
CN05: Wild meat is rare and scarce, so it's expensive. Because it's expensive only rich people can afford it. Those people are from the city, in general.

5.3.4. Occupation

Businesspeople and finance professionals were significantly more likely to report wild meat consumption in the last twelve months than those in other occupations. This contrasts with reported consumption of wild animal-derived medicinal products upon which occupation had no significant bearing. Interviewees strongly associate powerful individuals in high-status occupations, or simply "successful" people, with eating wild meat:

Retired male wild meat consumer, aged 58, is invited to eat wild meat by old friends:
Int: Do you share or does one person pay?
WM18: We go in a group of about 30 people and a meal costs around 10 million VND. One of my friends pays. Some are very rich. Some like me are poor. Richer friends don't mind paying the bill for the others. One works for the Vietnam Petrol Corporation, one works for the National Department of Planning and Investment, one works at the Ho Chi Minh City Television Station. Some are managers or heads of department, etc. They are successful people.

Female service worker aged 46:
Int: Have you ever tried wild meat dishes?
WM08: I've tried a lot. I follow my elder brothers and friends who order wild meat dishes. [...] I've just come back from a "big" lunch. [...] It is difficult to find wild meat, but I hear about eating macaque meat and brains - it's frightening! [...] The people who try wildlife dishes are rich ones. They look for something unusual to try. Normal citizens cannot afford it [...] Successful people often eat wild meat.

Retired female unskilled worker aged 73:
Int: Why do your friends choose to spend their money on wild meat?
WM33: Some of them have power. They began to like wild meat when they first tried it. So they often suggest eating wild meat dishes on the occasions of reunions [...] they contribute a budget of 2,000,000 VND a year [to make the occasion possible].

Although no state officials – other than those representing armed forces and police (n=4) - are represented in the survey sample, one state official in active service and three retired officials were interviewed and all four reported wild meat consumption in the last twelve months (see also Chapter 6). Interviewees - including other wild meat consumers - also repeatedly perceived state officials to be eating wild meat dishes more regularly than "normal" people:

Male professional and wild meat consumer aged 45, managed a resort in Tam Dao:
Int: What kinds of people came to eat wild meat at the restaurants in Tam Dao?
WM05 Among the people who come to Tam Dao *and eat wildlife dishes are state officers [...] I had to know where the tourists were from, but I didn't know what positions that were in or what jobs they did. But when they came, they asked us if there were any wildlife specialities. Then I answered, "yes" to them. Then they were served with wild meat dishes. Most of them were from Hanoi. Only state officers or someone else can have a lot of money. Normal workers like me cannot afford wildlife specialities.*

Male professional and wild meat consumer aged 31:
Int: Wild meat is expensive so why do you spend money on this?
WM29: It is just like our treat after a hard working year with friends. [...] After a year, families and friends also want to try some special dishes, but not 2 or 3 times in a month at all. Government officials or those who are invited by someone or organisations may have special dishes often. We, the normal people, can't do that.

This association is often also related to the additional income those in positions of authority and power are perceived to obtain illegally:

Retired government official/businessman aged 57 talking about government officials:
Int: Why do you think wild meat restaurants are so popular in Hanoi?
CN36: Some reasons can be revealed, other cannot. I only tell you what I can tell [...] Those people who have money want to eat wild animals. I can't tell you where their money comes from.

Male service worker aged 24 and wild meat consumer[18]:
Int: Do you think it is worth Vietnam trying to protect these species?
WM09: If people keep eating wild animals, many species will be extinct. Most wild meat consumers or restaurant patrons are rich. They go to big restaurants and hotels to enjoy special dishes. I don't know about corruption, but I see the wildlife eating is a serious problem. How do they afford to try expensive dishes?

[18] This interviewee reported eating wild meat in the last twelve months but was unusual because he trapped and cooked these animals while working as a labourer for a timber company in Laos.

Finally, those who have the opportunity - often interviewees working for financial institutions - take advantage of company or public funds to access wild meat both for business but also for non-formal occasions such as company outings and celebrating birthdays, promotions or other successes:

> Female bank clerk and wild meat consumer aged 28:
> *WM24: Eating wild meat, in my work, I usually go to other provinces and have a chance to try wild meat such as goat and deer...*
> *Int: Who pays?*
> *WM24: Other people who hold a high position pay or we use our office's fund*

> Male clerk and wild meat consumer aged 23:
> *Int: When you eat wild meat, do you always go with your colleagues or with others too?*
> *WM21: Our company organises for us. Two months ago, we went to Huong Pagoda. On the way home, we went to Giap Bat to try the bamboo rat [...] the company accountant paid with the company's budget [...] People in my company sometimes go to eat wild meat when they win some sport events and on the manager's birthday.*

> Female professional aged 33[19]:
> *WM27: [...] the second time, the time I ate civet, I can't remember but not a special occasion, just a gathering of my old colleagues from the company I work with before.*
> *Int: Is wild meat popular for company outings?*
> *WM27: It's more with state run companies because they don't have to pay and they claim it back to the company so they don't mind getting very expensive foods and some even take that chance to try some different, special, expensive foods.*

5.3.5. Age

Although only a slight relationship was apparent from bivariate analysis, when all other variables are held constant age has a significant positive relationship with consumption of medicinal products. People naturally develop illness and disability as they age and wild animal derived medicines such as bear bile and tiger glue are considered to be products needed by older people:

> Female unskilled worker aged 54:
> *Int: Have you ever used tiger glue?*
> *WM32: No. People at my age can't use it. It is for the much older people. Young people don't use it [...] Must be old people with serious diseases. I don't have any problem, so I don't need to buy it [...]. Only old people and/or those with serious diseases need that kind of medicine.*

> Male army officer aged 49:
> *Int: Have you ever used medicine from wild animals?*
> *WM15: Yes, just a little. Medicine like tiger glue or macaque glue is for old people. Bear bile is for drinking with wine.*

[19] Interviewed in English.

In contrast, multivariate analysis confirms eating wild meat is not associated with any particular age group. Likewise, although a few interviewees perceive that wild meat consumers are - or should be - older men, the majority place greater importance on wealth and occupational status and, when prompted, recognise that younger men are eating wild meat. Until recently, it is likely that the image of wild meat being enjoyed mainly by middle-aged men was to some extent true: age brings status and more often than not, the money and power, enabling access to eat wild meat. But young people in urban areas now have many opportunities that were not available to earlier generations: unlike their parents' generation, many have disposable income to spend on the latest fashions such as the most recent model of motorbike or mobile phone, free time on their hands and the means to travel. It is perhaps not too unexpected then that younger generations are eating wild meat as much as their elders or that a "fashion" or "movement" for wild meat (see also Chapter 4) is often made, particularly by older wild meat consumers, in reference to young people:

> Retired male and wild meat consumer aged 58
> *Int: What are the other patrons like?*
> *WM18: Most of patrons are middle-aged people. They are 40 years old, 50 years old [...]. They have settled their careers, have more friends and more opportunities to enjoy their lives, and have money. They often go to Hao Lac town of Ha Tay province for wildlife dishes at weekends. They often buy live animals and have the animals slaughtered. We too.*
> *Int: Do you ever see young people eating wild meat?*
> *WM18: I see many. [They go] mostly for fun, they follow each other to try wild meat dishes. It is a waste of money. [...] They may follow a "fashion" of eating wild meat [...] I think it is a new fashion.*

> Businessman and wild meat consumer aged 56:
> *Int: Who do you think are the main customers at wild meat restaurants?*
> *WM25: Those who have money, officials, and businessmen who have lots of money because wild meat is very expensive [...].*
> *Int: When you went to Le Mat did you see any young people eating wild meat?*
> *WM25: Many young people, because young men eat well and drink a lot. They also earn good money. [...] There are many people in their thirties eating wild meat.*

Younger consumers describe being introduced to wild meat as a food for celebratory meals and respected guests by those senior to themselves and often in positions of authority:

> Male professional and wild meat consumer aged 31:
> *Int: When were you first introduced to wild meat?*
> *WM29: I was introduced in 1995 when I became a photographer. When I went to school to learn photography. It was on August 25, 1995. it was the time when we studied in Viet-Xo Relationship and Culture Palace. After we finished the first class, our teachers said we should all*

eat wild meat [...] And after the photography course, we ate turtle meat. Since I became a photographer, I have been invited by friends to eat wild meat. But only for the last two or three years, have I eaten more.

Male skilled worker and wild meat consumer aged 25:
Int: When you go to the restaurants that sell wild meat who else is there?
WM17: Most patrons are state officials who have 'big stomachs'. I would never know about the taste of wild meat if in 1998 my uncle did not have me go to a wild meat restaurant with him. I first tried the wild meat and saw that it was tasty and delicious.
Int: How do you know they are state officials?
WM17: It is because my uncle is a state official. He is an inspector of the Ministry of Interior. I sometimes follow him to try wild meat dishes.
Int: On what occasions does your uncle eat wild meat?
WM17: He is a state official going on business to southern Vietnam, so he is invited. So he goes to restaurants for business.

It is unsurprising therefore to find young male interviewees, as much as any other age group and despite many other luxury commodities available to advertise wealth and fashion knowledge, holding wild meat in high regard and aspiring to host such meals themselves, subsequently introducing others to wild meat and reinforcing its status as a desirable commodity amongst younger generations:

Male professional and wild meat consumer aged 25 first tasted wild meat when working at a wild meat restaurant to support his studies:
Int: Can you tell me about the last time you ate wild meat, I think it was your birthday?
WM30: No, it was my friend's birthday [...] I think wild meat is special, and its flavour or how it tastes depends on the cooking methods by different restaurants. In short, wild meat is good [...] is special. When people have special occasions, they want to try special meat [...].
Int: So, on your own birthday did you also go to eat wild meat?
WM30: Well! I couldn't do that some years ago when I was still a student. But now I have a job with a stable income so I can go and eat wild meat. I am still thinking of my next birthday.
Int: Will you invite some friends to eat wild meat dishes?
WM30: I hope so (smiling).

In order to try wild meat dishes, a few young people report splitting the bill between them, breaking the tradition that the host pays for everyone (pers. obs.). In this way some younger consumers are perhaps managing to access dishes they may not otherwise be able to afford. This suggests that wild meat consumption is assuming a novel, less ceremonial context amongst younger consumers, a trend perhaps driven by curiosity and/or simply keeping up with a wider "fashion" for wild meat.

5.3.6. Education

Although wildlife-related knowledge score had a significant negative relationship with wild meat consumption (see Chapter 8), education did not contribute to the model's ability to predict wild meat consumption in the last year. For wild animal-derived medicinal products the opposite is true: although wildlife-related knowledge score did not contribute to the model's ability to predict consumption, there is a significant positive relationship between education and reported consumption. Qualitative data shed little light on why higher levels of education are associated with the consumption of wild animal-derived medicines. Nevertheless, this one interviewee with a higher postgraduate degree talks about the body's capacity for self-repair and, despite referring to its unproven scientific effectiveness - possibly largely for my own benefit - enthused about traditional medicine:

> Male professor aged 51[20]:
> *Int: So when you do use medicine do you use western medicine or traditional herbal medicine or...?*
> *CN38: You know [...] sometimes I use traditional medicine [...] I don't know, it may be a myth, people believe in that and there is no scientific research that it improves the effectiveness of you know. A lot of people are now turning to traditional medicine but I don't know, have you ever been to a traditional doctor? They take your pulses, they look at your complexion and they make the prescription based very much on their intuition and professional judgement and it works for some people, it works.*

5.4. Discussion

5.4.1. Consumers of Wild Meat

Men are the dominant consumers of wild meat in central Hanoi, corresponding to reports in both urban Vietnam (e.g. SFNC, 2003; Venkataraman 2007) and China (e.g. Wu et al. 2001 in Guo 2007; Guo 2007; Zhang et al. 2008). Wild meat restaurants in urban Equatorial Guinea are also reported chiefly patronised by men (Kumpel 2006). Wild meat restaurants being predominantly male spaces in China and Vietnam is also supported by wider literature (e.g. Craig 2002; Farquhar 2002). For example, Craig (2002) describes the dining room as a typically male domain, prosperous urban Vietnamese males as principal engineers of fine food culture, and 'hot' foods and tonics that nourish *yang* of being particular importance because masculinity is associated with heat and *yang* qualities (Craig 2002).

[20] Interviewed in English.

With limited options for leisure, McNally (2003: 118) observes, drinking and paying for sex is now a significant component of Vietnam's emerging leisure industry, offering recreation and excitement for men with disposable income to spend on themselves, friends and work colleagues. To the extent that it is associated with such masculine activities, eating wild meat also appears to be a dimension of this trend. In Vietnam, both wild meat restaurants and a small private zoo are directly associated with complexes of massage parlours, karaoke bars and female escort services (Roberton 2004; SFNC, 2003).

Income is consistently positively correlated to wild meat consumption amongst Hanoians (Venkataraman 2007) and amongst Chinese urban consumers (e.g. Guo 2007; Zhang et al. 2008). A recent report notes an emerging urban middle class in Thailand has sufficient wealth to afford to be significant consumers of wild animal products, implying consumption is positively related to income here also (World Bank 2005). Building on findings in Chapter 4, these results further imply that as disposable incomes rise in Hanoi, demand for wild meat will also increase.

While the results clearly show that higher proportions of businessmen and finance professionals eat wild meat than those in other occupations, the emphasis on government officials may in part be motivated by perceptions of, and prejudice towards, those whom interviewees consider more privileged than themselves. Nevertheless, wild meat restaurateurs also report both businessmen and government officials as their main customers (SFNC 2003; Roberton 2004; Roberton et al. 2004) while cars parked outside a wild meat restaurant near my rented flat in Hanoi often had government number plates (pers. obs.). A previous survey of Hanoians also identified government officials and those in senior management positions as most likely to report consuming wild animal products (Venkataraman 2007). Two recent surveys of urban consumers in China found management personnel, businessmen and government officers to be major consumers of wild meat (Guo 2007; CWCA/PKU unpublished in Guo 2007: 10), although another documents manual labourers, students and the self-employed to be 'heavy' consumers (Zhang et al. 2008).

Amongst Central Hanoians wild meat is used as a medium to communicate prestige, show respect and demonstrate business competence, and as such it is a popular choice for initiating and maintaining business relations (see Chapter 6). It is therefore perhaps unsurprising that those involved in business, finance and working in high status positions are more likely to report eating wild meat, or that business people and professionals are more likely to report eating wild meat with colleagues (Chapter 4). In many societies, 'entrepreneurial' exchanges are used to obtain social or economic advantage and to both raise the prestige of the host and oblige the beneficiary to reciprocate (van der Veen 2003; see Chapter 2). Those in high status positions are therefore both more likely to serve wild meat to assert their superior rank and also to be served wild meat by others aiming to buy their influence.

Bank clerks, finance professionals and state officials are also more likely than those in other occupations to have access to public accounts, which they may use to access expensive foods they may otherwise be unable to afford. In urban China, for example, Lu (2000) observes a substantial proportion of restaurant clientele charging their bills to public accounts. Interventions should therefore target those in positions of authority and/or with access to public and corporate accounts. In a similar vein, those in high-status positions may receive money over and above their salary through corruption, and this might well be spent on conspicuously expensive and yet untraceable[21] commodities such as wild meat that serve to assert their status in society (see Chapter 6).

However, the results show most wild meat events are recreational and amongst friends and family (see Chapter 4), suggesting businessmen and finance professionals are also eating wild meat for leisure. Because individuals in these occupations are more likely to access wild meat through work than those in other occupations, it is possible their subsequent familiarity with, and knowledge about, wild meat encourages them to also choose it socially or creates a culture for wild

[21] Although corruption is common in Vietnam (Transparency International 2008), individuals receiving income through illegal means still need to spend their gains carefully; the phrase '*hạ cánh an toàn*', meaning 'perfect landing' or 'landing safely', is sometimes used to refer corrupt individuals approaching retirement (pers. obs.).

meat within these occupations. Celebrating business deals or reunions of colleagues, for example, is likely to involve peers similarly employed. Even on a recreational basis, a host is likely to want to impress upon his guests just how successful he has become, and food - particularly rare and expensive foods such as wild meat - is a good way of doing so (see Chapter 6). Even recreational meals amongst friends may be subject to expectations of reciprocity and of meeting a certain standard in terms of the foods consumed, particularly amongst Hanoians who are reported especially conscious of their perceived social rank (Fforde 2003; Matthaes 2006). As already discussed in Chapter 4, although apparently recreational on the surface, such occasions may also serve to create and maintain mutually beneficial social networks.

Outside Southeast and East Asia, other researchers have observed wild meat being enjoyed by a sub-section of high-status, urban consumers (e.g. Kumpel 2006 in Equatorial Guinea; Mendelson et al. 2003 in Ghana; Times of India 2008 in India; see also Section 4.4.2, p. 105). Moreover, in major towns in Asia, Africa and the Neotropics, Bennett (2002: 591) reports wild meat costing more than readily available domestic alternatives, suggesting wild meat consumption may also be positively related to income in urban centres in Africa, the Americas and elsewhere in Asia. Specifically, Barnett (2002) finds wealthier residents of the urbanised Luangwa valley in Zambia paying a premium for wild meat and Cowlishaw et al. (2005b) note wild meat is typically more expensive in urban centres than in rural areas of Ghana.

Nevertheless, East et al (2005) conclude, although consumers of wild meat in urban Equatorial Guinea tended to be a wealthier section of society, there is no evidence of a luxury market based on rare species. Cowlishaw et al. (2005) consider the higher price of wild meat compared to domestic meat to result primarily from its being in limited supply, and transport costs, and although Caspary (2001: 14) describes wild meat becoming a 'deluxe' commodity in urban areas of West Africa, he reports that its price is comparable to that for beef. This contrasts to Hanoi where consumers are willing to pay a significant premium for rare wild meat and where wild meat is widely considered superior to widely

available domestic beef, chicken, duck and pork and strongly associated with wealthy, high-status groups (see also Chapters 6 and 7).

Wild meat is considered 'heating' and as people age they are considered 'cooler', (Anderson & Anderson 1975). But despite perceptions that wild meat is most popular amongst older men, the results show that central Hanoian men of all ages are eating wild meat. In urban China, Zhang et al. (2008) also found that young men with a earning high incomes comprised some of the most frequent consumers of wild meat. This contrasts to the findings of Wu et al. (2001 in Guo 2007) and Guo (2007) who found wild meat was more popular amongst older consumers in China. While it is possible that wild meat is not popular amongst young men in China as it is in Hanoi, neither of these surveys present results of multivariate analysis to unravel the effects of different explanatory variables and it is possible that age was correlated with another predictor such as working in a high status occupation.

5.4.2. Consumers of Wild Animal-Derived Medicinal Products

In contrast to wild meat, income, occupation and gender have no significant influence on reported consumption of wild animal-derived medicinal products. A recent survey specifically investigating bear bile consumption amongst the Hanoian population also found that similar proportions of men and women reported using bear bile (Nguyen & Reeves 2005: 6). Because wild meat is valued for its rarity and expense it is used to communicate status and success (Chapter 6). In contrast, by far the most commonly reported medicinal product is bear bile (Chapter 4), which is primarily valued for its medicinal efficacy rather than any symbolic values. (Chapter 6). Unsurprisingly, there were very few reports of consumption of medicinal products that remain rare (i.e. tiger glue, rhino horn) and, as such, retain important symbolic value (Chapter 4), precluding separate analysis of them.

Although Hanoians of all ages consume wild meat, consumption of wild animal medicines increases with age; a finding consistent with the survey exploring bear bile consumption amongst the Hanoi public (Nguyen & Reeves 2005). Tonics

which have generally restorative and strengthening powers are important in Vietnam, comprising over half of Sino-Vietnamese *materia medica* (Craig 2002). The rise in consumption of wild animal-derived medicines with age not only arises from the need to treat specific symptoms of chronic age-related conditions but also from their perceived restorative, strength giving and health maintaining properties (Chapter 6). Although older interviewees refer most frequently to the medicinal values of wild animal-derived medicines, they are considered valuable and effective by all age groups (Chapter 6). Therefore as people live longer, and disease profiles and medical needs change (Kang & Phipps 2003), these findings suggest that an increasingly elderly Hanoian population will increase demand for wild animal-derived medicines. And finally, unlike with wild meat which appears to be 'fashionable' amongst young men, there is no evidence for this trend extending to, for example, alcohol infused with bear bile.

5.4.3. Education and Wild Animal Consumption

The results suggest that raising levels of formal education amongst Hanoians is unlikely to reduce demand for wild meat or wild animal-derived medicines; in fact it might serve to increase demand for the latter. This does not mean that formal education cannot play a important role in reducing consumption behaviour, but simply that, to date, the education received by Hanoian respondents is failing to do so[22]. In China, education has been found to have varying relationships with wild meat consumption: while Zhang et al. (2008) found that highly educated individuals ate more wild meat, another found a negative relationship between wild meat consumption and education (CWCA/PKU unpublished in Guo 2007), and yet another study found no relationship (Guo 2007). But again, as already noted, none of these studies used multivariate analysis to tease out the independent impacts of different variables.

It is not clear why education should be positively related to the consumption of wild animal medicines. Although positive relationships between education and access to alternative medicine and Traditional Chinese Medicine have been

[22] Other factors influencing the relationship between consumer behaviour and knowledge and awareness are explored in Chapter 8.

documented in the West (Cassidy 1998; Zollmun & Vickers 1999; Rajendran et al. 2001), education has been shown to have limited influence on uptake in Singapore (Lim et al. 2005; Tan et al. 2006) and Hong Kong (Lam 2001). Nevertheless, a recent study found that those with higher education were significantly more likely to access traditional Chinese medicine than those without, a trend not seen before in Hong Kong (Chung et al. 2007). Chung et al. (2007) suggest independence may have activated an enhanced appreciation for traditional Chinese customs including TCM especially amongst better educated groups, but note a current absence of research in this area. Alternatively, Chiu et al. (2005: 1045, 1052) argue that political opportunity arising from independence caused TCM groups to rally for the revival and institutionalisation of TCM in Hong Kong and, in order to improve its credentials, leadership of the campaign was devolved to universities resulting in its renaissance being fronted by educational elite. Healthcare, as with many other aspects of daily life, is also undergoing transition in Vietnam[23]. Given greater choice, it seems that highly educated Hanoians in particular are turning to traditional medicines, or at least to traditional medicines of wild animal origin. However, it is clear that more research is needed to understand the relationship between education and the consumption of wild animal-derived medicines by central Hanoians.

[23] A reduction in state subsidy and the state's central role in healthcare since the mid-1980s has meant that individuals have now have greater control over healthcare and a wider range of options (Craig 2002). Craig (2002: 36) describes "popular medical knowledge and practice in Vietnam as highly ephemeral, shaped and accreted by the country's moving, changing history".

6. The Values Associated with Wild Animal Products

6.1. Introduction

6.1.1. Influencing Consumer Behaviour

Tackling demand for wildlife products in consumer countries through social marketing and education campaigns is now considered an important component of conservation efforts (Srikosamatara 1992; Wilkie & Carpenter 1999; Bowen-Jones et al. 2003; Venkataraman 2007). In order to design pertinent and effective consumer-targeted campaigns it is first important to understand what values and/or concerns are associated with wild animal products and how these influence consumption behaviour. There has been limited previous research into why Vietnamese consumers choose, or do not choose, to consume wild animal products. The research presented in this chapter aims to fill this gap by exploring the values consumers associate with wild animal products.

6.1.2. Emerging Health Concerns

The recent growth in the availability and diversity of food, and in particular the increasing intensification of food production, has been accompanied by growing concerns about food quality, particularly regarding the use of chemicals such as growth promoters in domestic livestock production and post-harvest preservation (Figuie 2004). Moreover, as well as its proximity to the source of the recent SARS outbreaks, Vietnam has also suffered the second highest human death toll from H5N1 Avian Influenza (WHO 2005); many Vietnamese are subsequently avoiding domestic poultry meat (pers. obs.).

6.1.3. The Values Associated With Wild Animal Products

A number of surveys have attempted to assess why consumers eat wild meat, typically by allowing respondents to choose from a number of closed, pre-defined options. Again, studies of the motivations of urban consumers of wild animals have focused on China. For example, one survey of Chinese residents offered respondents the choice of “health and nutrition”, “curiosity”, “taste” and “social status” as reasons for eating wild meat and found that almost a third selected all but the latter (CWCA & WildAid 2005). Also using structured questionnaires, Zhang et al. (2008: 1503) found over half of their respondents reported eating wild

meat because it is “delicious”, around a quarter because it is “rare” and a fifth out of “curiosity” and for “nourishment”. Others report consumers choosing wild meat to pursue a “high-class” or luxurious way of life (CWCA/PKU unpublished in Guo 2007 in Guo 2007: 11), to “show off wealth and social status” (Wu et al. 2001 in Guo 2007: 11; CWCA/PKU unpublished in Guo 2007), and to “follow the crowd” (CWCA/PKU unpublished in Guo 2007 in Guo 2007). Why consumers choose, or do not choose, to eat wild meat – a process involving values and motivations which consumers themselves may not be able to distil and articulate – is not easily captured using such structured approaches. Yet most of these studies have been limited by using highly structured, close-ended questions.

Guo (2007: 24) found that half of wild meat consumers reported the reason for eating wild meat as “being a guest or having guest(s) for dinner”. The next most common reasons given, in order of frequency, were: “it is tasty”; “I am curious”; “everyone eats”; “to gain supplement”; “it is natural”, “recommended by friends or restaurant staff”; “to treat illness”; “it is rare”; recommendation by a TCM doctor; “it is high class”. These reasons offered as pre-defined categories and I would argue that they are neither exclusive nor exhaustive. For example, taste is a cultural construct, and factors such as being considered ‘high class’ or ‘rare’ or ‘natural’ can all contribute to how a food is perceived to taste. While reasons identified for consumption may include ‘having guests to dinner’ and ‘because everyone else is eating it’, neither actually explains why they chose wild meat specifically. Moreover, while consumers might think “I have guests coming, I should serve wild meat” the underlying motivations for their choosing wild meat are likely to be intangible to – and never previously considered by – consumers themselves.

A similar, structured survey of consumers in Hanoi (Venkataraman 2007: 14) concludes that the main reason people eat wild animals and buy ornamental products is because they think the former is “tasty and delicious” and the latter are “durable and beautiful” and “rare and strange”. Again, however, respondents were given pre-defined categories that were not exclusive and that fail to capture the underlying values associated with wild animal products that cause them to be considered ‘delicious’ or ‘beautiful’. The most common reason given for not

consuming wild animal products was because they are too expensive (Venkataraman 2007).

Guo (2007) also uses a series of multiple-choice questions to examine the values associated with wild meat, including medicinal values, social symbolic values and "wildness" values, by consumers in Guangzhou. In terms of socially symbolic values, Guo (2007: 40) found that almost half of respondents considered wild meat a "high class" and "luxury" food, around a third thought serving wild meat shows the hospitality of the host, advertises wealth and that eating wild meat – particularly rare species - reflects consumers' wide social networks, and a quarter believed eating wild meat reflects social status. Wildness values were also important with 59% believing that a wild-caught animal is superior to an animal of the same species bred in captivity, but medicinal values were not found to be an important driver of wild meat consumption (Guo 2007).

6.2. Methods

The data presented in this chapter are purely qualitative. They derive from SSIs with wild meat consumers (n=39) and are also drawn, to a lesser extent, from those completed with the central Hanoian public (n=39). For details of sampling method, interviewee characteristics and the contents of interviews see Chapter 3. Due to the popularity of bear bile as a wild animal-derived medicine (Chapter 4), bear bile became a central theme in interviews with both interviewee groups. The quotes presented reflect the primary themes emerging from the interviews in relation to the values associated with wild animal products.

6.3. Results

6.3.1. Rare and Precious

Interviewees, including those who have never tried wild meat, frequently refer to wild meat as rare (*hiếm*), valuable or precious (*quý*) - these two words are typically used together - expensive, special and/or unusual (*đặc biệt*) and to a lesser extent,

as exotic (*lạ*) and luxurious[24]; these associated values are more important than the meat's inherent quality or taste:

> Businessman and wild meat consumer aged 56:
> *Int: I am researching the economic potential of farming wild animals to supply meat for restaurants. I want to interview people who enjoy the meat to find out their views.*
> *WM25: Actually, it's exotic, but it doesn't necessarily taste better than other meat. It's exotic and expensive, so people would like to invite each other to try as a luxury [of life]. There are many things else that taste better but since it's expensive, rare and luxurious, people invite others to try to show their respects [...] I think people think wild meat is tasty because it is rare, but it's not necessarily true [...]. Because it's rare and precious so people think it's luxurious. Rich people want to invite each other to eat something special. For example, one kilo of pork is only 40,000VND while a kilo of wild meat is 7-800,000 VND, so it's better. Actually, it's more about what they think rather than the real quality.*

> Female professional and wild meat consumer aged 33[25]:
> *Int: And the civet, was that farmed or wild?*
> *WM27: [...] Actually I arrive late, when everyone had already ordered and it's on the table and people just say 'try it, try it, it's very special' and I try it and to be honest I have no clear impression, not very impressive [...] I don't think that it's very good meat [...] I don't know why people (pauses to think); they just keep eating it because they think it's rare and precious, and stylish to eat something rare like this.*

> Female café owner aged 40 eats wild meat with her elder brothers:
> *Int: Why do your brothers spend money on wild meat rather than other things?*
> *WM08: People want to show that they are luxurious gourmets even though the dishes they eat are not very delicious.*

Further demonstrating the importance of rarity in driving consumption of wild animal products - whether for food, ornamentation or medicine - this interviewee perceives rarity to be the greatest threat to the recently discovered bovid species, the Saola (*Pseudoryx nghetinhensis*):

> Female student aged 19 eats wild meat with her successful businessman father[22]:
> *Int: Do you know if any of these animals [named by the interviewee] are endangered?*
> *CN09: I think Saola is in danger of extinction [...] because of loss of habitat, food resource and now some people know that it is strange and it is unusual; being a thing in danger of extinction may make some people want to hunt them.*
> *Int: Really?*
> *CN09: Yes, it very usual in Vietnam, when something is famous people want to have them to sell [...]. Some very rich people who can buy for food because they think it is really good or just to try, just to taste to see how good the food is, and maybe the second reason is they buy because they want to have this animal in their house, very rich people, and also often for food or for medicine.*

[24] The word "luxurious" could also be interpreted as "money-consuming" or "fashionable" (Nguyen Danh Chien, pers. comm.).
[25] Interviewed in English.

6.3.1.1. Conspicuous Consumption

Eating wild meat and inviting others to eat wild meat is means of publicly demonstrating wealth and status, and a means of sharing and differentiating identity. Wild meat is also considered "fashionable" and "stylish", associated with leading a generally stylish and luxurious way of life:

> Female bank clerk aged 38, eats wild meat with colleagues:
> *Int: What kinds of people do you find in wild meat restaurants?*
> *WM23: Businessmen or those people who want to impress other people, to show off their wealth.*

> Male professor and wild meat consumer aged 51[26]:
> *Int: So you think meat consumption is rising in general?*
> *CN38: It's rising enormously. But wild meat, I don't think a lot of people can have access to wild meat: very expensive. And I think some so-called 'yuppie' people now they want to show-off their wealth so they get into their car and they can go to the forest and to the places outside Hanoi just to eat these things.*
> *Int: And do you think this is a new trend or do you think in the past…*
> *CN38 (interrupting): New trend. That is my answer to your question. A new trend so people can show off their wealth. I have money, I can, okay, why not go to this or that place and have this or that kind of thing. They go in parties with 5 or 6 friends, I think the business people I would put in that category [...].*
> *Int: Wild meat restaurants are quite popular now in Hanoi but the meat is expensive so why do you think this is becoming so popular?*
> *CN38: You know, [...] some people believe this is something they should try, sometimes it is just the matter of having the experience of eating something that is denied to others; you are privileged, you have the money to buy this; sometimes it is just a matter of status.*

> Male skilled worker and wild meat consumer aged 25[27]:
> *Int: You said that people eat wild meat to show off?*
> *WM25: Yes it means they usually have very good car or motorbike, luxurious mobile phone and they come to very expensive restaurant and they eat some food that is very new and special, it means they are on a different level to other people, a higher level.*

Possessing and giving rare and expensive wild animal-derived medicinal products is also thought by some to primarily be a means of "showing off":

> Male skilled worker aged 36:
> *Int: If you don't support farming for commercial purposes, how will Vietnamese people access medicine like bear bile or tiger glue?*
> *CN31: For that demand for medicine, I can say that only recently when our economy has grown, Vietnamese people have more demand for it [...]In my opinion, people use medicine from bears and tigers to show off. [...] I have never used bear bile or tiger glue. My uncle has given my brother a piece of tiger glue but I don't believe it is a miraculous medicine. [...] I think many Vietnamese people just want to show off.*

[26] Interviewed in English.
[27] This interview was completed in English. The interviewee talked about wild meat being used to show off, without any prompt, prior to the start of the recording.

Male skilled worker aged 60:
Int: Is [monkey brain] good for health?
CN14: [...]. There is no evidence to show that this is good for health. Many people say that rhino horns can cure many diseases but no scientists have proved that. Due to their ignorance and greed, people just want to use this sort of things. [...] Some people just want to show off by paying a lot for something that is exotic. We don't know for sure whether it is good for health or not.

Possessing rare and precious wild animal products - whether medicinal or ornamental – can also symbolise power and strong social networks:

Male unskilled worker aged 49:
Int: Hunting for what purposes?
CN01: As you know Vietnamese people have been very poor for a long time. You know, the bones of tigers are valuable medicine and so are their skins [...].
Int: What type of people buy tiger skin?
CN01: The rich. They usually hang the skin to show their power. When hanging a tiger skin, people know about a family's power. And you may know about the value of tiger bones, right? [....] Only those who are rich can afford to buy the skin to hang to show their power and status. Ordinary people don't have enough money to buy and they don't have enough space to hang it either. Those who buy it are those who have money and power [...] Because they have money, they have social contacts. Tigers are considered the king of the forests, which can show their power.

6.3.1.2. Doing Business

Expensive and unusual foods are used to impress, show respect and demonstrate business competence. Wild meat is therefore a good choice for facilitating business negotiations and initiating new business relations:

Female bank clerk and wild meat consumer aged 38:
Int: Wild meat is expensive. Why did [your boss] not order something else?
WM23: People usually choose to eat specialty of a region to start a new business relation. People usually want to choose something more exotic rather than normal food for this occasion to impress other people.

Male professional and wild meat consumer aged 24:
Int: Did you buy?
WM30: No, no, no! I went for business [...] Vietnamese people, while doing business with their partners, often invite their partners to a very solemn place, and they also want to treat their partners with some specialties which they don't often eat. I think they want to tell their partners that their companies are doing well, and that they want to show their respect and devotion.

Female professional and wild meat consumer aged 33[28]:
WM27: [My husband] works for a Russian company. (Laughs) I'm not sure he would like to talk about it but I'm sure he buys more wild meat than me!
Int: What at work or for fun?
WM27: No, at work: for work [...] it's just like, you know, a common practice for businessmen to bring their clients out to have meal, some drinks and sometimes they sign at the table [...] if they want to impress their clients or business partners, [...] in most of the cases they always want to bring them to a very expensive, good place with expensive foods, and wild animals is also one of their favourites.

[28] Interviewed in English.

6.3.1.3. Influencing Others

Wild meat is also used to influence and obtain preferential treatment from those in positions of power; recipients therefore tend to be government officers and managers:

> Male skilled worker and wild meat consumer aged 25:
> *Int: When your uncle eats special dishes, is it just for fun?*
> *WM17: He is a state official going on business to southern Vietnam, so he is invited. So he goes to restaurant for business [...] He goes to inspect the performances by local officials, so he is invited by the local officials. He asks them to help me, so I'm called to go with him.*
> *Int: Why do they eat wild meat instead of other food?*
> *WM17: They think wild meat is rare and precious [...] People consider wild meat dishes something precious to serve distinguished guests.*

> Businessman and wild meat consumer aged 56:
> *Int: On what kinds of occasions do people go to eat special dishes?*
> *WM25 Maybe when someone has a successful business deal or job promotion, or when someone wants to invite other people out to ask them for a big favour then people will choose something very special or expensive to invite each other to eat [...] Sometimes people buy it for work, as a form of bribery.*

> Male professional manages disaster relief in central Vietnamese provinces aged 25:
> *Int: You said sometimes when you visit the provinces you work with sometimes you have to take an official to a restaurant?*
> *WM28: Usually when I go on a field trip to work with my [business] partners, if they want to show they respect me a lot and want to win me over or influence me or something like that, they take me to a restaurant and order very expensive things, and then it's not easy to refuse.*

Rare and precious wild animal products are also used to obtain social leverage meaning that the recipients are again often those with influence:

> Female shopkeeper aged 47, describing her husband's past work as a taxidermist:
> *Int: Who buys the stuffed animals?*
> *WM03: Stuffed animals are displayed in a lot of shops. People buy these to decorate their big houses, buildings or institutions, keeping the animals as ornamental subjects. Some people consider stuffed animals to be special gifts for their bosses or senior officers. These bosses and officers often like stuffed animals more than money [...] I hear my husband's friends saying that the recipients want something natural in their houses. A stuffed animal in their house can be a symbol of good luck [...].*
> *Int: Are they expensive?*
> *WM03: Yes [...]. (Laughing) It is a Vietnamese act [meaning that it is popular in Vietnam]; they want to get a promotion!*

> Female student aged 21:
> *CN18: My uncle was given a very big bear, to get the bile.*
> *Interviewer: What does your uncle do?*
> *CN18: I cannot tell you […] I don't want to say […] I think it was bribery.*

6.3.1.4. Pressure to Conform

The interviews show that, even if individuals did not want to eat wild meat, they may have limited control over their consumption of it. Given the importance of food in social discourse, refusal of a meal sends powerful negative messages, and almost certainly offends the host and damages the relationship[29]. This leads some interviewees to emphasise the importance of halting the supply of wild meat rather than focusing on altering consumption behaviour; these interviewees referring to a need to reduce consumption at all is most probably influenced by the presence of a Western interviewer, but it is nevertheless interesting to note where they place this responsibility (see also Chapter 8):

> Businessman and wild meat consumer aged 50:
> *Int: Why do you think wild meat is popular for business deals?*
> *WM39: I never want to do this. But wild meat is something special and delicious, so I invite people to try. I'm aware that eating wild meat is not good, but it is not easy to choose any other food. The government should do something to prevent the wildlife hunting first and stop restaurants from serving wild meat dishes. Then it may stop people from eating the dishes […] I wish nobody would invite me to eat wild meat and this can be my contribution to conserving wild animals. When no restaurants sell wild meat, we don't have to go for wild meat.*

> Male economics student aged 25 and non-consumer:
> *Int: You are studying finance; in the future do you think you will have the opportunity to eat wild meat?*
> *CN11: When we are at a party we cannot have total control over the types of dishes that people order. The important thing is the government should do something about the supply of wild meat to the restaurant so that businessmen cannot choose dishes of wild meat, because when we eat we tend to try something that we did not eat before.*

Those with the upper hand may even specifically request be taken to certain restaurants or to eat certain types of foods:

> Male driver for director of a securities company aged 36:
> *Int: Is it normal to eat wild meat dishes with your business partners?*
> *WM26: Yes [...] Each person has his own taste. So when our partners want some kinds of dishes they like, we need to take them there. We need to do what they ask.*
> *Int: So you have to do what your partners require?*
> *WM26: Yes. For example, when we came back from Hai Phong, we had to go to Le Mat* [to eat snake meat].

[29] Demonstrating the potential consequences of not fully participating in social events, on first arriving in Vietnam I recall reading an article in an English print of a Vietnamese newspaper about two government officers being made to write self-criticisms after leaving a work celebration at a karaoke bar early to spend time with their families.

Demonstrating the pressure to serve wild meat further, a Vietnamese acquaintance who required information for her work as a financial journalist approached a relevant government ministry official. He agreed to give her the information she needed over a meal at a restaurant of his choice. The official personally chose and booked a restaurant famed for its wild meat dishes and ordered three soft-shell turtles, each of which were slaughtered at the table and their fresh blood added to rice wine, while my acquaintance's company picked up the bill.

6.3.1.5. Shifting Values

The rapid economic changes Vietnam has undergone in the last two decades are likely to have meant substantial shifts in prestige commodities. For example, during the subsidised period (1975-1986) all foods in Vietnam, as well as other commodities, were highly rationed. Therefore simply having enough food to eat or any meat at all - often by receiving greater ration privileges[30] - was a sign of status:

> Male professor aged 51[31]:
> *Int: In China as incomes increase overall, the proportion of household expenditure on food increases also. Do you think this is the same in Vietnam?*
> *CN38: In the past the economy couldn't provide enough for the people and a compliment was 'you are looking fat'. Now there is a backlash. In a poor economy, having a lot of food to eat or meat is a sign of wealth.*

Thanks to economic reform, food is now in plentiful supply in Hanoi; supermarkets compete with street vendors and restaurants and cafes can be found on nearly every street. Because domestic meat is available "everywhere" it no longer shows anything "special", perhaps leading to a shift towards more rare and expensive foods to express wealth and status:

> Army officer and wild meat consumer aged 49:
> *Int: Why do they choose such expensive meat?*
> *WM15: Eating wildlife specialities seems to be a popular 'movement'. People think that eating precious dishes is something fashionable, showing something luxurious. If they do 'bia hoi[32]' or drink coffee, this shows nothing special.*

> Male retired skilled worker and wild meat consumer aged 55:
> *WM40: [Eating wild meat] is a new trend.*
> *Int: But you've eaten for 25 years...*
> *WM40: But I began to eat wild meat in a village, not in a restaurant in a city like today [...]. Because farmed meat is available everywhere, and people want to eat something special.*

[30] A recent exhibition at Hanoi's ethnography museum showed how high-ranking officials were able to receive from four to ten times the amounts of some food rations of ordinary people (pers obs.).
[31] Interviewed in English.
[32] *Bia hoi* refers to freshly brewed beer, the popular outlets that serve it, and is also used as a verb.

6.3.2. Medicinal Values

A surprisingly small number of interviewees made specific reference to any medicinal or 'strengthening' properties of wild meat. Unsurprisingly most of those who did were either older men or talking about older men:

> Male retired government official aged 71:
> *Int: Have you ever been to a national park?*
> *WM10: I've been to some national parks like Ba Vi, and a park in Quang Binh province. I've never been to Cuc Phuong. Regarding wild animals, I think it is important to conserve them. Many Vietnamese people want to try wild meat, as it is delicious and tonic. For example, the meat of tigers and small Indian civets is very good.*

> Retired male wild consumer aged 58:
> *Int: Is the wild meat more expensive?*
> *WM18: Yes, it is. When I try snake meat, I can distinguish the better snake meat: if the gall bladder of a wild snake is full, its meat is better. People think snake gall bladder is good for health like bear gall [...] I think snakes are good for me.*

> Female, aged 19, talking about her father[33]:
> *Int: Just your father's generation, or young people too?*
> *CN09: I think the younger generation doesn't like wild meat very much, but the elder, I don't know why but [my father's] generation, people like to eat wild animals; the elders, they like it. They are quite old and they think it's good for their health.*

This does not mean that younger interviewees do not think wild meat has medicinal value but that these values perhaps are irrelevant while they are young or that younger people are less likely to voice these beliefs (see also Chapter 5). However, given the relatively small number of interviewees who described any medicinal properties of wild meat and the ambiguity of most of these references in contrast to the more detailed references for other wild animal-derived products (see below), it is unlikely that medicinal values are driving wild meat consumption. In contrast, bear bile is widely considered valuable and effective – again, unsurprisingly, by older interviewees in particular - and a medicine that people "need":

> Retired female aged 73:
> *Int: Have you ever used a medicine from wild animal?*
> *WM33: Yes. I've used bear bile. (Showing us her leg) I fell down and my leg hurt. So I mixed some bear bile with alcohol to use on the skin to relieve pain.*
> *Int: Is the bile you use from a farmed bear or from a wild bear?*
> *WM33: It is wild [...] My brother in law knows well about bear bile. He went on business and bought some bile from an ethnic person who lives near the forest. So he gave me some when I had the accident. It is really effective [...].*
> *Int: Some people think extracting bile from bears is cruel, so it should be prohibited. But it is also a valuable medicine. So what do you think?*
> *WM33: I don't know what to say but I think bear bile is a good medicine that people need.*

[33] Interviewed in English.

Retired female aged 70 thinks most demand for wild animals is from China:
Int: The demand in Vietnam, what is that for?
CN22: They cater for people's needs. For example, bile from bear, bones from tigers, horns from deers. For other things, I don't know.
Int: Do you think to protect the animals the government should ban the use of animals in this way?
CN22: I don't think the government should ban because, for example, bear bile is very valuable; it's an effective medicine. We should not ban people from using, but should ban people from hunting animals.

Generally considered a common household medicine, bear bile is used for an extensive array of ailments from arthritis, sprains, sore throats and coughs, to toothache and bruising. The bile is drunk diluted in alcohol or applied directly to the skin. Python fat is consistently reported as a balm for burns while tiger glue is considered good for bones as well as generally strength-giving. Rhino horn, though possessed by very few (Chapter 1) is also considered versatile, and is thought to have sobering properties:

Female café-owner and wild meat consumer aged 47, talking about rhino horn:
Int: What happens to that?
WM03: [...] People saw the horn into pieces. Then these pieces are ground into a kind of horn liquid that looks like milk. It is said that rhino horn cures every disease.

Businessman and wild meat consumer aged 50:
WM39: In 1998, I had an accident and one of my legs was broken. I took some tiger glue, and I recovered soon. So I think the glue made from bones from wild tigers is very good. [...] Would you like to try some wine with tiger glue?
Int: No, thank you. (Laughing) I don't have a broken leg!
WM39: Many people want to find medicine from wild animals. I have witnessed some drivers being drunk. But after taking some ground rhino horn as a kind of powder they became very sober.

In contrast to wild meat, interviewees regularly make reference to the 'strength-giving' properties of wild animal-derived medicines. Some medicines are taken to restore strength and preserve health, prevent disease and promote longevity. For example, while carrying out the questionnaire survey we called in to the house of an elderly man who, after inquiring as to whether he could answer some questions for our research about wild animals, immediately responded by saying he needed tiger glue to increase his failing energy. Older men in particular report regularly drinking bear bile in alcohol to increase strength and maintain general good health:

Retired skilled worker aged 55:
Int: Have you ever tried some medicine from wild animals?
WM40: Yes. I use bear bile and try wine soaked with bear legs [...] I bought some wine in which bear legs had been soaked [...] It is really good. Before going to bed, I have a cup of the wine. When I get up, I feel I am stronger.

Male skilled worker aged 36:
Int: What about getting vaccine from monkeys to vaccinate humans?
CN31: We should do careful research and identify our purposes. We have to answer a question – is the vaccine really necessary for our life? [...] We should use vaccine from monkeys, for example, to cure rabies. But for a rich person who is 70 years old, we should not allow him to use bear bile so that he can live 20 more years!

Nevertheless, such medicines can also be seen as "precious" and something to serve or display to guests:

Male professor aged 51[34]:
CN38: [...] Traditional medicine has a practice of putting the snake into strong alcohol. We put the animals there so that the essentials of the animal will come out and dilute into the alcohol and people drink the alcohol. This alcohol gives you strength and can cure some diseases. For example, that's the way they use a kind of medicine made from tiger bones, they sort of cook the tiger bones with some other bones into a kind of medicine which is a kind of hardened liquid and that again is put into alcohol and that will be diluted and mixed with the alcohol.
Int: And it gives you some of the energy from the animal?
CN38 (nods): Energy.
Int: Do they add the live animal to the alcohol or do they kill the animal first?
CN38: They kill the animal and they remove the intestines and then they put it in. And for other animals they don't remove the skin. For example I have some birds in wine. I know in northern Vietnam there is a kind of bird that is good for people with broken bones [...] we put the whole bird into the alcohol for a year, and they believe that the alcohol will be good for your bones or your bruises.
Int: What about an animal that has venom, is that harmful?
CN38: They say that the venom that helps you cure the disease; it is not the meat, not the flesh, it is the venom.
Int: I visited a friend's house and her father had a king cobra in a vat in a very conspicuous position.
CN38: People just want to show they have that kind of medicine.

Retired male skilled worker and consumer aged 57:
WM04: It is alcohol soaked with real bile from a forest bear. It looks like wine. So we can call it wine. It is good for our health.
Wife of WM04: It is precious!
Int: It is so hot. I cannot drink.
WM04: This kind of wine can cure sore throat. It is effective in curing some diseases or problems with internal organs.
Int: Is that the taste of the wine or the bile?
WM04: It is the taste of black bear gall. It is strong. Three days ago, I had some guests, so I added some more bear bile to the wine. Drink some, please. If you have any cancer or protuberance, the bile can heal [...] I do not suffer from any diseases; I have drunk wine and beer for 30 years. I drink wine soaked with bear gall every day (showing dried bear gall).

6.3.2.1. Tradition

The few interviewees interviewed in English - perhaps also due to a greater awareness of Western medicine and their perceptions of Western attitudes towards traditional medicine - emphasised that wild animal-derived medicines

[34] Interviewed in English.

such as bear bile and tiger glue are considered traditional and Vietnamese, tried and tested by ancestors over hundreds of years[35]:

> Male professor and consumer aged 51[36]:
> *Int: Have you ever used a medicine from a rhino?*
> *CN38: No this is only fairy tale or hearsay. If you say this is good for that or this and (pauses) I have no idea.*
> *Int: You don't believe...*
> *CN38 (interrupting): I believe, I believe because it is part of a traditional medicine in Vietnam and in fact they use that [...].*

> Female professional and consumer aged 33[48]:
> *WM27: Many people are hunting now to get tiger glue.*
> *Int: Is that useful?*
> *WM27: It has been passed from very long, long time ago from our great, great, great grandparents and people all think it's very good but I haven't tried so I have no idea [...] it's difficult to make people understand that they should not eat it but it's much more difficult to get people to stop taking it as medicine because over a very long time its value has been proved a very precious medicine, its medicinal value has been proved, so you can probably stop people from eating it but I don't think you can ever stop people taking it because it's a valuable medicine.*

However, a few interviewees think tiger glue is not an essential traditional medicine, having only recently become popular as a result of rising wealth:

> Retired male official aged 57:
> *Int: If the tigers in Binh Duong aren't used to make medicine, how will the demand for tiger glue in Vietnam be met?*
> *CN36: About 100 years ago, Vietnamese people did not use tiger glue.*
> *Int: Why is it popular now?*
> *CN36: Many people have more money; maybe 1000 USD.*

> Retired sailor aged 45:
> *Int: if we don't farm tigers to make tiger glue, how will we meet demand for tiger glue in Vietnam?*
> *CN37: There is a demand for tiger glue everywhere, but if there was no tiger glue, it would be fine. Many people have never used tiger glue.*

6.3.3. Avoiding Wild Meat and Wild Animal-Derived Medicinal Products

Very few interviewees said that they would not want to try wild meat given the opportunity. The most common reason given by both questionnaire respondents and interviewees for not having yet - or not having recently - tried wild meat was lack of money. Views that wild meat was unhealthy, dirty or dangerous were rare, and tended to arise from personal experience (see also Chapter 8):

---

[35] In an article entitled "A glimpse of the traditional medicines of animal origin" under a sub-heading "a scientific approach" Nguyen (2006: 158-9) states: "explanations offered by traditional medicine are not always convincing, but these drugs have survived over the centuries, even for thousands of years; their effectiveness has been proved".
[36] Interviewed in English.

Female engineer aged 52 lives in a rural area in central Vietnam:
Int: Why haven't you eaten [wild meat] recently?
CN30 Because I have not returned to my village recently, and also I don't have any need for it. In the past it was cheap and also tasted better. [...] Now when people hunt wild pigs, they dig a hole to preserve each hunted pig with chemicals. Only after a while, they collect all the pigs to sell. Therefore, eating wild pig is dangerous.

Male skilled worker aged 36:
Int: I've spoken to many people who ate wild meat in Tam Dao, did your friends not?
CN31: I don't like eating wild meat. Ten years ago I went to Perfume Pagoda with my friends. We were served with a dish of bamboo rat [...] I had never eaten it before but it did not smell good to me. [...] From then on, whenever going on a picnic, we bring our own food. I worked in a wild meat restaurant before, and I knew that customers are not often served with fresh meat. Even though some soft shell turtles are killed at the customers' table, the restaurant usually serves them with dead ones preserved for a long time in fridges.

Moreover, no concern was expressed about the transmission of zoonotic diseases, even when prompted:

Male retired clerk aged 53:
Int: Does it worry you when you eat meat from animals from the forest?
WM13: It is necessary to be careful, but the meat is cooked, so I don't worry about it.

Male professional aged 25 eats wild meats with colleagues[37]:
WM28: I think, in my own opinion, I think in the future wild food will became cheaper, but it's not easy for everyone to go to restaurants to buy and try, in some very few cases they want to try and do something unusual. But even when I have a lot of money, I do not like; many people do not like. Many people think it brings diseases or something, they think it's dirty and are afraid that the way the restaurant cooks it is not good.
Int: Does anyone worry about SARS or H5N1?
WM28 (Laughing): Wild animals do not have these diseases!

But despite this general absence of concern, one interviewee did note:

Male mechanic and wild meat consumer aged 37:
Int: Do you think eating wild meat is a new trend?
WM26: Yes, a new trend. People get fed up with other kinds of food so they turn to something exotic. If wild meat was affected by H5N1, then no one would eat it.

A few younger interviewees convey a sense that wild animals, or at least endangered wild animals, should not be consumed. Nevertheless, some of these individuals have eaten wild meat with their main role models – their parents - and are to some extent saying what they think is the 'correct' answer, or at least seem unsure of why they think this:

[37] Interviewed in English. Note that although the interviewee considers wild meat potentially "dirty" he still eats it; however he goes on to explain that this is under a certain amount of pressure in the context of his work (see also Section 6.3.1.3).

Female student aged 19, eats wilds meat on family birthdays[38]:
Int: And if it were your birthday would you like to do the same?
CN09: No [...] I think it's not necessary to go expensive restaurant like that and I don't want to taste the meat of strange animals like that because I think it's just like normal dishes, and sometimes, just sometimes (laughs nervously) *I feel that it's not very good to have this kind of dishes.*

Moreover, only a few – particularly younger and typically with some knowledge of English – interviewees appeared unconvinced by the efficacy of traditional medicines such as bear bile:

Male professional and wild meat consumer aged 25 with higher degree[16]:
Int: Do you use medicine from wild animals, like bear bile?
WM28: I don't like to use medicine from wild animals [...] I think it's risky. I'm not sure if it's good or bad for my health. Many rich people in Hanoi they try to increase their energy so they eat many animals, like the bird bìm bịp *[Greater Coucal][39], tiger* cao *and they put snakes in rice wine, this is very popular in Hanoi. But I don't believe it's any good.*

Male professional aged 30:
Int: Have you ever used bear bile?
WM29b: I think people should not maintain their habit of using bear bile; there would be less hunting of bears.
Int: What will people do if they need bear bile?
WM29b: They can use other kinds of painkillers because other countries do not use bear bile. I play sports, in my team when someone is injured, they are given a kind of gel, I don't remember the name.
Int: But maybe Western medicine is not as good?
WM29b: I don't think so: if traditional medicine was that good, then all the Chinese and Korean sports teams would be much stronger!

Male skilled worker aged 36:
Int: If you don't support farming for commercial purposes, how will Vietnamese people access medicine like bear bile or tiger glue?
CN31: [...] Maybe, bear bile and tiger glue are good medicine, but there are many Western medicines which are much better, why don't people use them? [...] Other countries such as America or England, people do not use it but they are still strong. Why do Vietnamese people use it?

Only one interviewee – a pharmacy student - mentioned western medicines having more side effects than traditional medicines. Despite the habit of some of my Vietnamese friends of making highly personal comments, which would generally be considered offensive in the West, it is possible that interviewees did not wish to criticise western medicines in front of a Westerner who was a stranger to them. Despite the general absence of concern surrounding the quality of wild meat, there are however widespread concerns regarding the quality of farmed bear bile that

[38] Interviewed in English.
[39] A whole Coucal (*Centropus sp.)* steeped in alcohol costs 221USD in Hanoi for a twenty litre bottle (Nguyen & Nguyen 2008).

are affecting consumption behaviour; these are presented and discussed in the following chapter.

6.4. Discussion

6.4.1. Symbolic Values

The results support the hypothesis that wild meat is a food through which Hanoian consumers communicate prestige. In Chinese society, eating prestige foods has also been identified as a means of indicating and reinforcing social status (Anderson 1988) and advertising wealth (Manderson 1986). Regarding wild meat specifically, other researchers have also reported that consumers host wild meat meals as a symbol of wealth and social standing in Vietnam (SFNC 2003) and in China (Wu et al. 2001 in Guo 2007; CWCA/PKU unpublished in Guo 2007 in Guo 2007); Guo (2007) also reports the ability of rare wild meat to demonstrate urban Chinese consumers' extensive social connections in addition to their wealth and high status. Donovan (2004) also notes affluent Chinese consumers, whose conspicuous consumption often involves unusual meats, particularly favouring wild animals believed to be rare.

Although the consumption of wild animals to communicate prestige is most widely reported in East and Southeast Asian society, such behaviour is not limited to, although perhaps more common amongst (see Section 2.6.2.), consumers in this area. For example, in urban Ghana, bigger animals are reported to be in particular demand for important feasts (Mendelson et al. 2003), while in Gabon Schenk et al. (2006: 443) found only weak preferences for wild meat based on taste tests, leading the authors to suggest that price or other values such familiarity, tradition or prestige are shaping demand for wild meat. Wild meat is also considered superior in urban India where it can be much more expensive than domestic meats (Hilaluddin & Ghose 2005). In fact, Bennett (2002) suggests a substantial portion of wild meat exchanged in major urban centres in Asia, Africa and the Americas is a 'luxury' trade.

It is recognised that consuming rare wild products can demonstrate status because access to them may entail perceived traits such as money, power and skill (Hall et

al. 2008). Wild meat and other wild animal products, are particularly obvious natural symbols given their historical restriction to elite groups (Jelliffe 1967; Schafer 1968) and because they demonstrate power over the exploitation of natural resources and, correspondingly, of human resources (Fiddes 1992). As such, as in many other societies, the tiger is revered in Vietnam as the 'king of the forest' and displaying a tiger skin can denote prestige (Nguyen & Nguyen 2008: 44). Similarly, in Indonesia numerous people keep endangered bird species as status symbols, valued according to their rarity and grade of legal protection (Shepherd et al. 2004); wealthy European trophy hunters are willing to pay extortionate fees to kill rare species in order to gain social prestige from their peers and demonstrate affluence, and Asian businessmen will pay USD250 for a plate of Napoleon Wrasse (*Cheilinus undulates*) lips to display their prosperity (Courchamp et al. 2006). But placing such importance on rarity is also known to drive disproportionately high exploitation of rare wildlife (Courchamp et al. 2006), and rarity being the most important value associated with wild meat by central Hanoians implies consumers will meet escalating costs of finding the last of a species. In fact, wild species may be desirable amongst central Hanoians precisely because their consumption is costly in terms of the environment rather than in spite of this cost (e.g. Fiddes 1997).

The results also suggest wild meat is perceived to be delicious, not due to its physical qualities, but as a consequence of its relative rarity and expense and its subsequent associations with powerful, wealthy and successful people. Demonstrating this, most French consumers given two caviar samples at luxurious parties expressed a preference for the one they believed to be the rarest despite both samples actually being identical (Gault et al. 2008). Therefore, despite Zhang et al. (2008: 1503) reporting that half of the Chinese consumers responding to their survey - choosing from pre-defined, closed options - reported eating wild meat because it is "delicious" and a quarter because it is "rare", it is likely that rarity in fact contributes to the more commonly expressed perception that wild meat is "delicious".

As in China (Anderson 1988; Simoons 1991; Farquhar 2002; Lo & Barrett 2005), certain medicinal foods and remedies are preferred gifts for those in senior occupational positions in Hanoi also. Roberton (2004) also reports Vietnamese companies buying bone glue in bulk for use as gifts. In addition to their medicinal value, rare and expensive wild animal medicinal and ornamental products are also particularly symbolic and a medium through which prestige is conveyed and useful political and economic alliances are built and maintained. SFNC (2003) also report ornamental wild animal products being used to symbolise wealth and prosperity. For this reason, those in positions of authority are often the recipients of such gifts, the value of such gifts reflecting their power and influence although often out of reach of their own personal income (Davis 2000a).

As a food used to demonstrate prestige, wild meat plays significant roles in social discourse amongst Hanoian consumers, primarily as a means of 'showing off' wealth and status. Rather than a deliberate drive to conspicuously advertise status, consumers may be being driven by an instinctive inclination to meet a certain standard of decency in terms of the volume and grade of goods consumed (Veblen 1934), or to match personal consumption to that of peers with comparable means (Douglas & Isherwood 1979). This pressure may be felt particularly acutely in Hanoi, where residents are reported to be especially status-conscious (Fforde 2003; Matthaes 2006). Even recreational meals amongst friends - the most common context of wild meat consumption reported by surveyed central Hanoians (Chapter 4) - may be subject to expectations of reciprocity and of meeting a certain standard in terms of the foods consumed.

For example, following up an interview with a woman who spent a significant proportion of her income on wild meat meals and yet lived in one small room with her young baby, husband and sister-in-law's family, the interpreter explained how many Hanoians would rather buy the most expensive motorbike and eat at the best restaurants to maintain their social image even if it meant foregoing basic comforts back home (pers. comm. Nguyen Danh Chien). Similarly, in China, hosting feasts confers such social prestige that some will endure years of debt in order to afford to do so (Yang 1994). Indeed, amongst urban Chinese, both Zhang et al. (2008) and

Guo (2007) observe an element of social pressure from others to eat wild meat; as a guest, refusing wild meat is disrespectful and potentially insulting while, simultaneously, hosts are under pressure to show hospitality and to demonstrate wealth and social standing (Guo 2007).

Moreover, those in collective, Confucian societies with interdependent self-concepts are more inclined to conform to social norms and be concerned about losing face within the groups they identify with (see Chapter 2). So even though Vietnamese society is reported to be becoming increasingly individualistic (Nguyen 2004), refusing wild meat on either environmental grounds or due to other personal preferences is likely be seen as putting oneself above collective goals, socially damaging not only to the individual but also the groups they represent, and likely to entail a loss of face.

To a lesser extent, Hanoians also consume wild meat over business or to nurture advantageous relationships with 'friends' or business contacts (Chapter 4). In contemporary China, familiar language of exchange and reciprocity, and the sharing of food especially, is frequently a way of developing useful social networks (Stafford 2000). So as a medium demonstrating wealth and success, it is perhaps unsurprising that wild meat often chosen for business events; it is able to prove business proficiency and show esteem to valued guests, but is also sufficiently prestigious to leave one's guests indebted and obliged to reciprocate. This mirrors the 'entrepreneurial' exchanges used to obtain social or economic advantage that can in turn be converted into useful 'symbolic capital' (van der Veen 2003; Bourdieu 1984; see Chapter 2). This finding supports the argument that those in high-status positions are more likely to be offered wild meat than those in more lowly and less influential positions (Chapter 5).

At entrepreneurial exchanges hosts are under pressure to serve prestige foods such as wild meat because the quality of food served needs to be equal in measure to the nature of the reciprocal action required. For this reason, individuals may be obliged to serve others a sufficiently rare and precious meal such as wild meat, not only to raise their own prestige, but also in order to gain economic and social

advantage to a sufficient level to oblige their guest to reciprocate accordingly; this may not be entirely voluntary and may even be demanded directly or, at the very minimum through tacit coercion (e.g. Stafford 2000).

Because eating wild meat is strongly associated with successful, wealthy and high status individuals, it is unsurprising that most interviewees identify lack of finance, rather than personal choice, preventing them from eating wild meat. Guo (2007: 58) observes the richest and highest status consumers in Guangzhou having more opportunities to eat wild meat and suggests others then consider eating wild meat because they aspire to pursue a similar quality of life. Likewise, with regards to demand for African bushmeat, Rose (2001) notes that, as long as elites consume, or are believed to consume, wild meat, lower status groups will aspire to emulate them whenever they can afford to. It is also likely that lower status Hanoians wish to emulate the consumption of those they perceive as successful (e.g. Veblen, 1934), even if they are unable to do so with the equivalent distinction (Bourdieu 1984)[40].

Today a greater proportion of the Hanoian population has disposable income. This means more people are able to afford wild meat, even if less regularly than, or of a more common or a more widely farmed species, than wealthier and/or higher status consumers. This is perhaps also why eating wild meat is now widely considered a "trend" (Chapter 4), and why an overall rise in the consumption of wild meat has recently been observed (Compton 2000; TRAFFIC/WCS 2004; World Bank 2005). The results also suggest that, as the proportion of urban residents with disposable incomes continues to grow, demand for wild meat will also rise. A wider proportion of the population being able to access these products may subsequently emphasise further the value of rarity amongst consumers seeking to demonstrate their superiority through consumption.

[40] Veblen (1934) first used the term conspicuous consumption in documenting his observations of social emulation and class-differentiation in *The Leisure Class*. Veblen's theory of conspicuous consumption is generally accepted as based on the premise that those who advertise wealth are given preferential treatment by social contacts (Bagwell & Bernheim 1996). Bourdieu (1984) has more recently incorporated the study of lifestyles with social-class reproduction: as well as a "trickle-down" effect of class preferences (e.g. Veblen, 1934), Bourdieu (1984) allows for a "trickle-up" effect enabling the upper classes to "outflank the middle classes" whose lack of cultural capital hinders their ability to embrace popular tastes in the same way (Trigg 2001: 106). Bourdieu (1984) uses the adoption of peasant dishes by those with high cultural capital as an example of this effect.

Given the popularity of wild meat amongst Vietnamese and Chinese consumers and the prestige associated with it, it may also be worth monitoring demand amongst growing Vietnamese and Chinese expatriate populations conducting business in other areas of high biodiversity. In Vietnam, for example, Chinese and Russian tourists have been implicated in expanding demand for wild meat (TRAFFIC/WCS 2004).

6.4.2. Medicinal Values

The results suggest perceived medicinal properties are not driving demand for wild meat amongst central Hanoians. This reflects the observation by Anderson (1997) that, while rare animals are partly considered *pu* in China due to their strangeness and cost, conspicuous consumption is a key element of their use. Likewise, Guo (2007) concludes that medicinal values are not an important driver of wild meat consumption in Guangzhou. However this is not the case for common non-wild meat products, such as bear bile, which are instead primarily valued for their medicinal efficacy. This explains why larger proportions of Hanoian retirees report consumption of wild animal-derived medicines than do wild meat, and why age is positively correlated with consumption of medicinal products only (Chapter 5). Nevertheless, the symbolic values of rare wild animal-derived medicines such as tiger *cao*, rhino horn and an entire bear gall in rice wine are also important in addition to their perceived medicinal value.

The versatility of bear bile has been recorded by other researchers. As well as cancer, toothache and hepatitis, Nguyen and Reeves (2005) found that Hanoians used bear bile for arthritis; bruising, sprains and muscle complaints and stomach or liver problems. Tiger glue is documented as being used to treat joint-related problems such as rheumatism and to convey strength (Compton & Le 1998). Moreover, Shen's influential *Materia Medica* (1597 in Read 1931) records a variety of uses of rhino horn including alleviating fevers, vomiting and hallucinations. Rhino horn being considered by Vietnamese as able to alleviate symptoms of drunkenness is an effect also recognised by others (pers. comm. ENV). The results also correspond with general observations that tonics and medicines that restore

strength and help maintain harmony in order to keep illness at bay are important for many Vietnamese (Craig 2002).

In a study of attitudes towards animal welfare, Zu et al. (2005: 84) noted that more highly educated Chinese students are more aware of Western criticisms of Chinese culture and able to counter criticisms with foreign examples; they also tended to be more patriotic and sensitive about China's image, often interpreting specific criticisms as attacks on Chinese culture as a whole. Similarly, informants interviewed in English for this research were more likely to 'counterattack' with foreign examples than those interviewed in Vietnamese and emphasise the 'traditional' values of wild animal-derived medicines. This is most likely as a result of being able to access both English media and spend more time with individuals whose first language is English, and hence being more aware of foreign criticisms of Vietnamese culture including the use of wild animals in traditional medicine. This suggests that campaigns attacking anything perceived to be 'Vietnamese' and/or 'traditional' culture might result in antagonistic responses, particularly if from foreign sources and especially amongst the more highly educated.

6.4.3. Why Not Consume Wild Animal Products?

The absence of concern regarding wild animal-borne disease amongst Hanoians is extremely surprising given the ongoing toll of H5N1 Avian Influenza on Vietnam and despite a more recent second outbreak of SARS in neighboring China (Cyranoski 2004). Moreover, it is surprising that concerns about the use of post-harvest chemicals to preserve domestic meat and seafood (e.g. Figuie et al, 2004; Chapter 7) do not widely extend to wild meat. Zhang et al. (2008) found that over a third of Chinese respondents who did not report wild meat consumption considered it detrimental to health and capable of transmitting disease. Yet Guo (2007) reports, despite a reduction in wild meat consumption shortly after the SARs epidemic, many Chinese consumers now think that wild meat is safe as long as it is prepared correctly. Xu et al. (2007) also report wild meat consumption regaining popularity again in southern China following a reduction associated with the SARS epidemic. A previous survey of Hanoi respondents also found little evidence of concerns about disease influencing wild animal consumption

(Venkataraman 2007). Continued avoidance of domestic chicken meat by some Hanoians due to concerns about H5N1 transmission (pers. obs.) suggests that this lack of concern arises from a lack of awareness of the potential for wild animals to carry H5N1. Finally, few interviewees avoid wild meat because of concerns about wildlife decline or due to a humanistic attitude towards wild animals, reflecting general disassociation between consumption behaviour and the endangerment of wild species.

7. Wildlife Farming: A Conservation Tool?

7.1. Introduction

7.1.1. Wildlife Farming in Vietnam

Numerous illegal commercial breeding farms are developing throughout Vietnam (TRAFFIC/WCS 2004). To enable Vietnamese farmers to compete better in a global market, the government is actively encouraging farmers to switch to more lucrative produce such as wild pigs, pythons and crocodiles (Anon. 2006; VNS 2007b; 2007a). Captive-bred species traded and consumed in Vietnam include the Indian cobra (*Naja atra*), monocled cobra (*Naja kaouthia*), king cobra (*Ophiophagus hannah*), Burmese python (*Python molorus*), Tockay gecko (*Gecko gecko*); Siamese crocodile (*Crocodylus siamensis*), sika deer (*Cervus nippon*), sambar deer (*Cervus unicolor*) and rhesus macaque (*Macaca mulatta*) (Nguyen & Nguyen 2008). The soft shell turtle *Pelodiscus sinensis* is also farmed; single farms have been observed to have over 40,000 individuals (pers. comm. McCormack, T.). The volume of captive-bred animals does not meet current demand and a significant volume of these species also continue to be sourced, illegally, from the wild (TRAFFIC/WCS 2004; Nguyen & Nguyen 2008). See also Box 1.1 (p. 32) and Box 1.2 (p. 33) for details of bear and tiger farming in the region.

7.1.2. Satisfying Consumer Demand For Wild Products In Vietnam

For wildlife farming to be a successful conservation tool, its products need to satisfy consumer demand for wild-caught animals. This requires consumer acceptance of farmed surrogates and relative stability in the size of demand for them. If preferences for wild-caught products are strong or demand for wild products grows, then demand for, and illegal trade in, wild-caught animals will persist. Initial discussions with the Hanoi public indicate that consumers may not be content with consuming farmed wild products (Anon. 2006). It is also thought that recent expansion in farming soft shell turtles has amplified demand for soft-shell turtles in Hanoi (pers. comm. Roberton S.) while preferences for wild-caught specimens means some consumers continue to seek *P. sinensis* despite it being widely farmed are also being reported (pers. comm. McCormack T.). Ongoing seizures of illegally traded soft-shell turtles are testament to persistent demand for wild specimens.

In contrast, the bile of farmed bears has proved an acceptable product to many consumers (Chapter 5; Nguyen and Reeves, 2005); although admittedly, in Hanoi, bile from wild bears still costs just over double of that from captive bears (Nguyen & Nguyen 2008). Humans have also long been intervening in the management of wild animals to provide medicines; for example, musk deer are thought to have been farmed in China for their medicinal velvet since 12-14th centuries BC (Chardonnet et al. 2002). Indeed, recent investment in farming of tigers and seahorses (pers. obs.) suggests that breeders believe that farmed substitutes are acceptable to a certain consumer market. Moreover, traditional medical practitioners support the substitution of traditional medicines from endangered species with farmed alternatives (Meng & Zhai 2000 in Nowell & Xu 2007; Nguyen 2006). However, no research has yet asked consumers directly what they think of potential farmed substitutes or of those, i.e. bear bile, already available. This chapter aims to fill this gap.

7.2. Methods

Data presented in the chapter are qualitative. They are sourced primarily from SSIs with wild meat consumers (n=39) and also making use, though to a lesser extent, of data obtained from SSIs with the central Hanoi public (n=39). Quotes reflect, unless otherwise specified, the main themes relevant to this chapter emerging from the interviews. For details of sampling method, interviewee characteristics and the contents of interviews see Chapter 3.

7.3. Results

7.3.1. Wild Versus Farmed

Meat and medicines derived from wild animals are widely considered superior to those derived from captive and/or farmed wild animals. Because wild animals live in the "natural" environment their meat is considered superior and more "delicious". In contrast, because their growth may be artificially accelerated with artificial feeds, farmed animals are thought to produce lower quality meat:

Retired male government official and wild meat consumer aged 71:
Int: Do you think there is any difference between the meat from a wild animal and the meat of the same animal raised in captivity?
WM10: I think the wild meat is better. The diet of wild animals is natural, so their meat is better and there is little fat. For example, wild pork is certainly better than farmed pork. An issue is that while farming animals, people use some kinds of substance to increase the weight of the animals quickly, so the meat from these animals is not good. So, meat of wild animals is more delicious.

Female engineer from a rural part of central Vietnam aged 52:
Int: In the past, people hunted animals to eat, but now people hunt to sell. Why do you think wild meat has become so valuable?
CN30: They are valuable because they live in nature, without eating any chemicals. So they taste better and may be better for health, so people like them. Farm animals are fed with artificial food, so they don't taste as good. Ordinary food may contain some chemicals. Therefore, people like to eat wild meat instead, then the prices increase. I heard that bile from wild bears is many times more expensive than the farm ones.

This perceived difference between farmed and wild meat is often likened to that between free-range and caged chickens:

Female unskilled worker and wild meat consumer aged 54:
Int: I see some restaurants that serve both wild meat and farmed wild meat. Customers can choose the dishes, and the wild dishes are more expensive?
WM32: Now, simply, we say caged chickens and roaming chickens are different: roaming chickens are always better in the quality of meat than caged chickens who just eat weighted grain[41]; chickens that eat weighted bran cannot be as good as roaming chickens. They eat weighted grain food so their meat is not good [...] Wild animals eat flowers, fruits, and etc; therefore, their meat is sweeter and has more flavour. Animals raised with weighted bran are not good; the quality of meat is low. I can give you a simple example: pigs and chickens. Pigs and chickens fed with weighted bran are not good [...] Pigs fed with weighted grain to grow faster don't taste good. Their meat is doughy, not good. Chickens who pick up rice, worms, crickets, etc., their meat tastes delicious. See, now people in Hanoi call them 'roaming' chickens.

Male professional and wild meat consumer aged 51:
Int: Do you think there is any difference between the meat from a farmed deer and one from the wild?
CN38: It's better; you can smell it, you can taste it, it's better quality. It is like a free-range chicken and a battery chicken; free-range chicken is much better.

Likewise, wild animals are thought to yield superior quality medicinal products. Again this is because, unlike farmed animals, wild animals eat natural foods, are free to move around, and also because they have to fight for survival. However, rather than stress the use of artificial chemicals and feeds contaminating farmed

[41] By weighted grain the interviewee means manufactured animal feed designed to make animals gain weight quickly.

equivalents, interviewees think medicines from wild-caught animals are better because the natural environment means they are "strong" and "healthy"[42]:

> Retired male aged 75:
> *CN04: [...] If the government wants better conservation, they should invest much more [...]. A tiger is kept in a 12m² cage. In real life [...] they should run around in an area of hundreds of kilometres. Keeping a tiger in a cage limits their movement. In relation to food, in their natural environment, a tiger would eat a good variety of food, but in captivity, they are fed with some pieces of beef. There are differences in the quality of antler from wild deer and deer in captivity because those living in the forest can eat many different kinds of leaves. But in captivity, they only have limited food. How can they grow? [...] When they are kept in captivity [...] they cannot fully develop. They can't be as strong and healthy as their counterparts in the natural environment.*

> Retired male wild meat consumer aged 57:
> *WM04: Tiger bones are good. Unfortunately, there are many fake bones today. There are few tigers left in the forest.*
> *Int: There are the tigers in Binh Duong* [see Box 8.1, p. 181].
> *WM04: If the tigers in Binh Duong were cooked for tiger glue, the glue would not be good [...] Any farmed animals are not strong as wild animals. Wild animals themselves have to struggle to survive, and have to adapt to harsh conditions. If they are not strong enough, they cannot survive.*

> Retired female farmer aged 72:
> *Int: If the government proposes more farms for wild animals like the one in Binh Duong, do you think it's a good idea?*
> *CN22: [...] I heard that bear bile in the wild is better, wild bears are better. Farm bears are not that good. Tigers are similar to bears. Tigers in the forest can eat natural food. The food in the wild is different compared with the food on a farm [...] The quality of honey from wild bee is also better than that from farm bee.*

Though the majority express the superiority of wild meat over farmed meat in terms of quality resulting from the natural environment, rarity also contributes to the perception that products from wild animals, like those who consume them (Chapter 5; Chapter 6), are superior.

> Businessman and wild meat consumer aged 50:
> *Int: What animals do you try in Hanoi?*
> *WM39: I live in Hanoi, but I have little [wild meat] here. I have a little soft-shell turtle and some kind of pork that looks like wild pork, but is not wild pork; it is from ethnic people. They raise young pigs and release the pigs into the forest. When the pigs are big enough, they catch them for sale.*
> *Int: So is the meat of these pigs [...] similar to the meat of wild pigs?*
> *WM39: It is different; the meat of the wild pigs is better, tastier [...] Maybe, the quality of the meat is better. It tastes better when you try it.*
> *Int: Why is it better?*
> *WM39: I think the meat from wild pigs is better because it is scarcer.*

[42] *Mạnh khỏe* or *khỏe mạnh* is a compound word meaning "strong and healthy" (pers. comm. Ho Gia Anh Le). Healthy individuals are said to be 'strong' (*khỏe*) while words for illness are associated with weakness; healthy and strong may therefore be considered synonymous (Craig 2002).

Female businesswoman and wild meat consumer aged 40:
Int: You have tried different dishes: is there any difference between the meat of farmed wild animals and wild animals?
WM19: Yes, there is, but only little difference. When the meat is rare people think it tastes better.

Male retired office clerk and wild animal product consumer aged 53:
Int: And you try [the bile] straight away?
WM13: Yes, I do. A cylinder of fresh bile like that is about 1 million VND. The prices of bear bile depend on how often they extract the bile. The more frequently the bile is extracted, the cheaper it is. The most expensive bile is the bile extracted for the first time [...] I choose the best bile. I use some for arthritis. Some bear farmers have my phone number, so they sometimes call me to come and buy good bile [...]. The purpose of farming bears is to extract more bile, as much as possible. But you can only get the bile of a forest bear once when you shoot it dead. So the wild bile is rare and valuable.

This supports the finding that rarity is also an important symbolic value of wild animal-derived products (Chapter 6); this is also a property that farmed wild animals, however 'naturally' raised, cannot imitate.

7.3.2. Preferences in Practice

Unsurprisingly, given the choice, most consumers state they would or already do pay more for meat from a wild-caught animal over and above the meat from an animal of the same species raised on a farm. This is because, as well as being of better quality and more delicious, it is also more impressive - referring to the importance of wild meat's symbolic values in social discourse (Chapter 5):

Male professional and wild meat consumer aged 26:
Int: The government is promoting farming of wild animals to supply restaurants. Do you think this is a good idea?
CN15: I think it's a good idea but [...] meat from farmed animals is not as good as that from the wild. People [...] prefer wild meat from the wild because that's more delicious [...] If I have decided to go to a wild meat restaurant, I'd definitely choose the wild.

Female professional and wild meat consumer aged 33[43]:
WM27: Of course the wild [civet] always costs more [than a farmed one] and people always think it's better food, better taste [...] most of the time people consider cost and it depends whether they think they can afford the higher one, the more expensive one. When I ate the snake in Gia Lam they had farmed and wild snakes.
Int: And you chose which one?
WM27: I didn't choose! The host: he said let's choose the wild one today because I want to make you happy, or something like that [...] It just depend on the one who hosts the party, whether they want to impress the people with something new, something different.

Businessman and wild meat consumer aged 39:
Int: Do you think other consumers your age would be happy to eat farmed wild meat?
WM11: I'm not sure. It depends on the availability and occasions [...] Normally I would choose the wild one. I often want to make my friends or business partners happy with what they try.

[43] Interviewed in English.

Moreover, if not responsible for the bill, guests are more likely to choose the more expensive, i.e. wild-caught meat:

> Male skilled worker and wild meat consumer aged 37:
> *Int: If cheaper farmed wild meat is available do you choose it?*
> *WM26: It depends: if I am invited then I will try the wild meat, but if I pay, then I will choose the one that is good quality but at a reasonable price. For example, today, we are drinking beer for fun. Maybe, tomorrow, if I have to do some business, I may go to eat a speciality.*

Although wild-caught products are clearly favoured, without being present at these occasions it is impossible to know whether consumers are putting stated preferences into practice. Moreover, only just over a third of consumers - typically those at the wealthier and more experienced end of the spectrum - claimed they can actually distinguish between wild-caught and farmed wild meat. Furthermore, these interviewees often refer to "real" and "fake" meat suggesting that they are not really comparing meat of wild-caught animals with the meat of farmed wild animals but distinguishing 'fake' (i.e. domestic) from 'real' meat from wild animals, whether farmed or wild-caught:

> Male professional and wild meat consumer aged 45, managed a resort in Tam Dao:
> *Int: Are the animals transported to Tam Dao alive or they are transported as meat?*
> *WM05: The animals are transported as meat.*
> *Int: How do you know it is the right meat?*
> *WM05: It is necessary to distinguish. If you don't know what is the right meat, you may waste a lot of money. You should know where is the meat, and how it looks and you can decide to try. If you've tried wild meat and you are aware of how it tastes, you'll know what is the right meat.*

> Businessman and wild meat consumer aged 25, family income >14m:
> *WM17: We ate common barking deer and pangolin [...] for over 5 million VND.*
> *Int: This must have been a very good restaurant! Did you see the animals first?*
> *WM17: Yes, I did. I was careful to avoid being tricked. If you are not, the restaurant will mix real wild meat with fake meat. [...] Real wild meat is tastier and more delicious. I can distinguish them.*

Additionally, while it may be feasible for those with sufficient experience to distinguish between live wild-caught and farmed wild animals based on behaviour and/or wounds sustained through being hunted, and despite the care taken to ensure they are served with the meat from the live wild animals they have selected (Chapter 4), consumers rarely report taking time to determine whether the animals they order are wild-caught:

Male skilled worker and wild meat consumer aged 37:
Int: Is the meat from the farmed civet the same price as the meat from the wild civet?
WM37: They weigh all animals. They don't assess this animal to see whether it comes from the mountains or the farm […]. [The restaurant] broke the farmed civets' legs and said the civets were trapped. So I don't know.

Male professional and wild meat consumer aged 31:
Int: When you go to a restaurant to eat wild meat, is the meat you eat wild or farmed?
WM29: I don't really know whether it is farmed or hunted meat. I just know that I buy an animal and ask the restaurant to kill and cook right there for us […] When we ask them, they just say that their animals are hunted but not farmed. We just pay attention to the animal we order and its price.

Most also admit that distinguishing between real and fake tiger glue and bear bile, let alone between wild-caught and farmed products, is very difficult:

Retired male printer aged 75, reported using tiger glue for back pain:
Int: Is it effective?
CN26: No, it's not. So I stop using it [...] People believe that bear bile and tiger glue are good medicine, so they will try to buy. Bear bile and tiger glue are expensive but it's difficult to tell whether they are real and of good quality or not.

Retired male consumer aged 57:
Int: What do you think about the bile from a bear raised in captivity?
WM04: There is a difference between the bile from a wild bear and a bear raised in captivity. I can distinguish the bile by tasting the bile with some wine [...] My experience helps [...] I know how the wild bile tastes; I can tell the wild one when I look at the bile soaked with wine. Normal people cannot do this like me […] It's difficult to distinguish fake tiger bones from real bones, because there's technology to produce fake bones.

7.3.3. The Market for Farmed Wild Products

Despite widespread preferences for wild-caught products, some interviewees suggest there will be demand for farmed wild products because, though not as good as genuinely wild products, they are cheaper:

Male skilled worker aged 21, lowest family income quartile:
WM01: The meat from the forest [...] is certainly more delicious. The meat of animals from the wild is natural, so it is better than that from farmed animals, because the diet for these animals is from the wild, too.
Int: Why do you think the natural meat is more delicious?
WM01: It is normal. For example, wild pork is more delicious than farmed pork for sure.
Int: Do you pay more for meat from the forest?
WM01: What I said is in case I had a choice. If I have to choose what meat, I'll choose wild meat. Nevertheless, wild meat is so expensive that I cannot afford to buy some.

Female service worker aged 48, income unknown:
Int: If everyone wants to eat wild animals, who will eat the farmed wild animals?
CN23: (Laughing) *Farmed animals are not as good, but they are cheap. Not everyone can afford expensive meat.*

Indeed, despite believing wild products superior, a few consumers at the lowest end of the income range appear to be less concerned about their wild meat being farmed, while farmed bear bile appears relatively widely accepted by even wealthy consumers:

> Retired male skilled worker aged 50, lowest family income group:
> *Int: When you try the meat how do you know if it is wild or raised on a farm?*
> *WM40: We don't care whether it is wild or farmed. We just order some dishes.*

> Male government officer aged 51, highest income quartile:
> *Int: You said you tried some bear bile. Was it from a farmed bear or wild bear?*
> *WM14: It was from a farmed one. I've just bought some more. Before extracting bile from a bear, people anaesthetize it. Bile from a farmed bear is not good.*
> *Int: Can you find bile from a wild bear?*
> *WM14: It is difficult [...] Though [farmed bile] is not as good as the wild bile, it is acceptable. I drink a lot of bear bile, but I don't know whether it is really good for my health or not. It is said that bear bile is good.*

A handful of interviewees think there is a market for farmed wild meat simply because demand exceeds supply (see also Chapter 8):

> Male skilled worker and wild meat consumer aged 30, owns a tea farm:
> *Int: You intend to set up a wildlife farm. Do you think they will want to buy your meat if, as you say, everyone thinks wild meat is better?*
> *CN28: Wild meat is not abundant; cannot meet the demand. So people will still buy farmed [wild] meat.*

But for other consumers farmed substitutes appear to only be acceptable in the absence of wild meat:

> Female and wild meat consumer aged 52:
> *Int: Should Vietnam farm more wild animals to supply wild meat restaurants?*
> *WM36: If this can be carried out, it will be very good, and prices will be cheaper [...] If there are no wild animals available I will probably accept eating farmed ones.*

> Businessman and wild meat consumer aged 50:
> *Int: So if the farmed meat isn't as tasty as wild meat, do you think this would satisfy the demands for wildlife meat and for medicine?*
> *WM39: If there is no good quality meat [...] people must accept lower quality products. [...] I think wild animals are becoming extinct.*

Moreover, interviewees believe those who can afford to will pay more to eat "natural" wild-caught meat:

> Retired state official and wild meat consumer aged 71, highest personal income quartile:
> *Int: Do you think people will be happy to eat the farmed wild animals available?*
> *WM10: I think a lot of people will choose the farmed meat, as it is cheaper. But rich people like something natural like wild meat.*

Businessman and wild meat consumer aged 56, highest family income quartile:
Int: So if you have a choice between some farmed deer meat and the meat from a wild deer, which one would you choose?
WM34: I think Vietnamese people would choose the less expensive one [...]. For those who are rich, money is not a problem; they would choose something that they like to try. They probably want to try the wild meat.

And, crucially, farmed products are not rare and expensive. Indeed, if widely farmed, some wild species may eventually no longer be considered wild but be viewed as "ordinary" every day products:

Male professional aged 30, income unknown:
Int: Do you think wild meat consumers will accept farmed wild meat instead?
CN29a: Maybe 50/50. Because if it were cheap, anyone could eat; the rich would not have to show off then, or they may not eat as much as they might not think inexpensive meat is as good for health as the expensive one.

Female professional and wild meat consumer aged 33, highest income quartile[44]:
Int: So you think if wild meat were cheaper it would be less popular?
WM27: (Laughing) Wild meat can never be cheap, if it's rare it's expensive, right? Or it is farmed everywhere and then it's not popular, right? [...] I think soft-shell turtle they don't consider a rare or wild animal now because they can raise it.

Male businessman and wild meat consumer aged 25, highest family income quartile:
Interviewer: Would you pay more for wild deer when farmed deer is available?
WM17: I would choose what is more delicious. But I would eat the farmed as an ordinary food.

7.3.4. Bear Bile Farming: A Case Study

Interviewees describe an initial boom in bear farming, with the high value of bile encouraging more and more people to farm bears. However, now bear farming has become relatively common, a considerable drop in value is reported. This decline appears to be fuelled by two factors. Firstly, wider availability reducing the symbolic values of bear bile as a rare and precious commodity:

Female student aged 19[43]:
Int: Did you ever try the medicine from an animal?
CN09: Yes, bear bile, to relieve my pain [...] I don't like wine but my father, I don't know why, but he really likes these kinds of strange animals, he has bear's legs in a big bottle of wine to drink. [...] And talking about the bear I think now they are really living in bad conditions.[...] because in the past it is strange so people, many people wanted to have it to give to other people as a present, as a precious present, but now it is so common, so popular, that it's not a precious present anymore and now they change to, I think they are changing to something more unusual and now, because in the past it is strange, it is expensive, so people bring bears to their houses to raise, to sell the bear's bile but now not many people want to buy it so now the bears are living in bad conditions because the owners don't have money to buy the food or to care about them, because they don't have money, because they can't sell bear's bile anymore.

[44] Interviewed in English.

Secondly, concerns regarding the quality and effectiveness of bile from captive bears have contributed to the apparent decline in the value of farmed bear bile. These concerns arise from the perception that bile is extracted too frequently from captive bears:

> Retired male aged 57:
> *WM04: If the tigers in Binh Duong were cooked for tiger glue, the glue would not be good.*
> *Int: Why not?*
> *Khanh: [...] It can be said that farming bears is rampant now. In the past one cubic centimetre of bear bile cost over 150,000 VND. It costs only 10,000/cc. But no one wants to buy, because it is ineffective.*
>
> Male student aged 20:
> *Int: Many think bear bile is a valuable medicine, What do you think?*
> *CN16: I think extracting bear bile [...] damages the bear's health. Due to too much extraction, the quality of the bile is not good, therefore, bear bile price has dropped. Some bear farmers now do not have enough money to feed the bears. They are left hungry and may die.*

However, since bear bile is now widely believed to be an effective and necessary household medicine (Chapter 6), rather than these concerns discouraging bear bile use they are instead encouraging consumers to seek whole bear galls and bile from wild bears; buying a whole gall bladder is one way consumers believe they can avoid being sold bile from an over-exploited bear. This form of demand has obvious implications for bears:

> Female professional and wild meat consumer aged 33:
> *Int: What about medicines, do you use bear bile or python fat?*
> *WM27: Actually older people care more about that. My grandparents they keep talking about bear bile and tiger glue, and they tell me they try to buy some wild bear bile to mix with alcohol and just use it.*
> *Int: Could they find some wild bile?*
> *WM27: They said they try but they don't want to buy bile from live bears, they want the whole gall bladder. But actually I don't agree with that idea at all, I said in order to give one gall bladder you have to kill the whole bear!*
>
> Retired female and wild meat consumer aged 60:
> *Int: I was told people no longer wish to give bear bile as a gift to their boss...*
> *WM22: Bear bile is cheap and not as good as before, because people extract the bile very often. If you want to have good bear bile, you should buy dried bear gall bladder that can be cut into pieces. It is as expensive as gold. An ounce of the gall costs an ounce of gold. It is very expensive, but really good. It can cure many diseases. [...] Hunters shoot the bear in the forest, so they have to slaughter the bear to get the whole gall bladder.*

Towards the end of the data collection period, a television advert aiming to reduce demand for bear bile showed distressed captive bears in cramped conditions. Following this broadcast, comments of some respondents suggest, in some cases at least, rather than discouraging bear bile use it may have actually compounded

fears about the poor quality of farmed bile, inadvertently encouraging demand for whole gall bladders and/or bile from wild bears[45]. For example, after describing the bears in the advert "screaming", one young male shop assistant surmised "bile from farmed bears is bad for you, so you need to use wild bile instead".

Likewise, due to concerns about fake tiger glue, a few interviewees and Vietnamese acquaintances told me of people clubbing together to buy a tiger carcass and making their own bone glue to ensure having the genuine article; I was also offered a whole tiger in a traditional medical pharmacy from a "farm" in southern Vietnam "from 150 million Dong for 120 kilograms":

> Businessman and wild meat consumer aged 50:
> *Int: A Vietnamese ambassador recently imported a rhino horn from South Africa, and he was caught, but do you think it is difficult to prevent those with power exploiting endangered species?*
> *WM39: Sure. One of my cousins, the District Committee Chairman, invited me to share a tiger for glue, but I did not have enough: 4,000 USD.*
> *Int: Where did he get the tiger?*
> *WM39: I don't know. It is a secret. He has power to get the tiger [...] I refused to share it: I might get into trouble.*

Given all of the above, it not surprising that a handful of interviewees predict that farming wild animals for meat and medicine will mirror the boom and bust of bear farms (see also Chapter 8):

> Male student aged 25:
> *CN11: I think that farming is a not a good idea: farmed animals are different from wild animals. For example, free-range chickens are different from chickens in captivity. So when people eat, they don't want to eat farm animals. [...] For some time, people will eat them, but after a while, when they realise the difference between farmed animals and wild ones, they will have less demand and the price will drop. After the second time eating wild meat, they will like to try something else, so it's not possible to farm.*

[45] This also emphasises the importance of designing public awareness campaigns based on a thorough understanding of the motivations of consumers and the current markets for wild products. Animal welfare concerns are limited in Vietnam while awareness of endangered species – including bears - is also lacking (Chapter 8). In the meantime, bear bile is a popular medicine (Chapter 4) considered effective and necessary (Chapter 5). Campaigns highlighting the poor welfare of farmed bears are therefore likely to confirm fears about the quality of farmed bear bile – and hence encourage consumers to seek wild bile – rather than, or as well as, reduce overall demand for the product.

7.4. Discussion

7.4.1. Acceptability of Farmed Wild Substitutes

The results strongly suggest farmed wild products will not satisfy demand for wild animals in central Hanoi. This corresponds to documented preferences amongst some Vietnamese and Chinese consumers for wild specimens of the now widely farmed soft shell turtle species, *Pelodiscus sinensis* (Shi & Parham 2000; pers. comm. McCormack T.). Almost half the respondents in a survey of Chinese consumers also reported a preference for real wild meat (Zhang et al. 2008) while Guo (2007: 58) found "value of wildness" was important with 59% believing that a wild-caught animal is superior to an animal of the same species bred in captivity. Restaurateurs in Vietnam also considered wild-caught meat tastier than farmed wild meat because of the diverse diet eaten by, and absence of chemicals found in, wild animals (SFNC 2003).

Preferences for wild meat have also been documented elsewhere. For example, in Libreville wild meat is over one and a half times more expensive than the most popular cut of beef (Steel 1994 in Bowen-Jones et al. 2002) and in local markets in Nigeria, wild meat was more expensive than all domestic alternatives besides the finest imported steak (Martin 1983 in Bowen-Jones et al. 2002). Moreover in Malawi, Mozambique and Zambia, significant demand for wild meat, and preferences for wild meat over domestic alternatives, is particularly evident in urban areas where wild meat is considered superior (Barnett 2002). Similarly, residents of Indian cities and towns consider wild meat a high-class commodity and are willing to pay a premium for it (Hilaluddin & Ghose 2005).

In contrast, Barnett (2002) finds demand for bush meat in the study countries in Eastern and Southern Africa, where wild meat is cheaper than domestic alternatives, is primarily driven by economic considerations. Other researchers in both Africa (e.g. Brashares et al. 2004; East et al. 2005; Wilkie et al. 2005) and the Neotropics (e.g. Apaza et al. 2002) also report wild meat primarily being exploited because it is the cheapest option. Additionally, remote households in northeast India, which are unable to access affordable alternatives, depend chiefly on wild meat for subsistence (Hilaluddin & Ghose 2005). In Eastern and southern Africa,

Barnett (2002), predicts rural demand for wild animals will persist until availability reduces to the extent that wild meat becomes as expensive as domestic meat and, in this scenario, these consumers are likely to choose favoured domestic meats.

As wildlife populations have declined and growing urban demand has made wild species more valuable, the switch from subsistence for basic nutrition to an urban luxury commodity appears to have already occurred in many parts of Southeast Asia. But domestic alternatives have not necessarily replaced wild animal protein amongst those who previously relied on wild meat for subsistence. For example, Hendrie (2000) reports that subsistence use of soft shell turtles in Vietnam has decreased as a result of rising market value in response to growing domestic and international markets, and Stuart et al. (2000) also find that most soft-shell turtles harvested in Laos are now exported to Vietnam and China despite a long history of local use. In Cambodia animal protein consumption has decreased as wildlife is exchanged and sold instead of being consumed directly, and has not been replaced by alternative forms of protein (Piseth 2001; Nooren 2004). Given the indications of preferences for wild meat emerging amongst certain African urban populations, a similar pattern may be seen in parts of Africa as its urban population grows. A growing Chinese expatriate population in Africa may contribute to this trend in the future.

As the examples given regarding "roaming" chickens clearly illustrate, wild-caught meat being considered 'healthier' mirrors preferences emerging in the West for free-range and organic meat, and an even newer vogue for 'healthy' wild game (Hoffman & Wiklund 2006; The Times 2006). Hoffman et al (2003) found that 80% of tourists, mainly from Germany, visiting South Africa considered game meat as having health benefits, including being less fatty. But, in contrast to Hanoian wild meat consumers, consumers in South Africa expected game meat to taste inferior (Hoffman et al. 2005), while many tourists visiting South Africa also considered taste to be a negative attribute of game meat (Hoffman et al. 2003 in Hoffman & Wiklund 2006).

Perceptions that wild meat is healthier are not unfounded. Research has shown that meat from certain free ranging wild animals including wild boar and deer species contains more protein and elements and less fat than domestic meat equivalents (e.g. Zomborsky et al. 1996). Moreover, the desirable range of fatty acids found in venison and other ruminants has been shown to be negatively affected by intensive farming practices and the use of grain-based feeds (Hoffman & Wiklund 2006). Increasing use of intensive feeding practices, castration to reduce fighting, vaccination programmes has led to concerns amongst commercial breeders that European and US consumers' perceptions of game meat as natural and pure will be damaged (Hoffman & Wiklund 2006).

The Vietnamese are fastidious regarding the freshness and quality of their food (pers. obs.) and concerns about food contamination are also prevalent (Figuie 2004). Indeed, many interviewees identify a lack of exercise and use of 'artificial' feeds, resulting in more fat and residual chemicals in the meat of farmed animals, as directly contrary to the more 'natural' meat of wild-caught animals. Chinese respondents also viewed wild animals as pure and untainted (Tong 2007) while Starkey (2004 in Kumpel 2006: 16) suggests preferences for wild meat in Libreville are partly explained by perceptions that it is organic and healthy, in direct contrast to the contaminated, intensively farmed domestic meats. Tourists, mainly Belgians and Germans, visiting South Africa also noted a benefit of wild meat being that it was not associated with BSE (Hoffman et al. 2003 in Hoffman & Wiklund 2006). It is therefore likely that, as in the West, rising concerns about the use of chemical growth promoters and increasingly intensive domestic meat production in general – coupled with a lack of concern and/or awareness about the presence of chemicals and disease in wild animals (Chapter 6) - are to some extent shaping preferences for 'pure' wild products in Vietnam.

Favouring 'natural' and 'traditional' (see also Chapter 4) meat and medicine might also be interpreted as a reaction to the recent intensification of production as well as urban living and industrialisation (e.g. Fiddes 1997). This may also explain the preferences for wild meat over domestic meat being reported in a number of African cities (Bowen-Jones et al. 2002), and demand for wild meat amongst

African communities in New York and Paris (Milius 2005). Wilkie and Carpenter (1999) have already suggested that urban Africans may view wild meat as a luxury commodity representing cultural heritage.

The findings - particularly regarding wild animal derived medicines - also reflect traditional Chinese medical philosophy in which wild animals are thought to yield the most medically potent products because they eat naturally occurring foods and survive harsher conditions; they therefore possess more, or stronger, vital energy than farmed animals (Cotterel 1986; Anderson 1988). Strength-giving products are also the closest equivalent traditional Chinese medicine offers to aphrodisiacs (Anderson 1988); so as well as being generally restorative, 'strong' wild-caught products - unlike farmed alternatives - may also be considered able to enhance sexual potency.

It is impossible to determine whether consumers can distinguish between wild-caught and farmed meat of the same wild species without conducting a controlled taste test (e.g. Schenck et al. 2006) and/or observing consumption first-hand. The results suggest that most consumers cannot distinguish between farmed wild and wild-caught or, in some cases, between real and fake, products. Zhang et al. (2008) also report that over a third of respondents in China said they did not know whether the meat they ate came from a wild-caught or a captive wild animal.

However, since relatively few species are widely farmed, it is likely that there has as yet been little call for consumers to develop the skills to distinguish between wild and farmed wild meat, i.e. if consumers can still reliably assume that most live animals they purchase are wild, the ability to determine the origin of most wild meat purchases has as yet been unnecessary. In contrast, consumers of products that have been farmed for longer and/or more widely, and of products that are considered easily faked, appear to be developing strategies to obtain genuine or better quality products. For example, consumers of bear bile who are concerned about the frequency with which farmed bile is extracted are now seeking whole bear galls to ensure they are buying high quality bile. And those wealthy enough are buying tiger carcasses in order to make their own genuine tiger glue; tiger

parts are traded surprisingly openly in Hanoi and can be obtained if ordered in advance at a sufficiently high price (Nguyen & Nguyen 2008). Moreover, Zhang et al. (2008) note that frequent wild meat consumers are most concerned about the origin of the wild animals they consume.

7.4.2. Market Stability

Rather than satisfying current demand for wild meat, results suggest that farmed wild meat will instead be providing an additional, inferior product serving a new, larger and ever-increasing market. Greater availability of affordable farmed wild meat will appeal to a wider audience for whom wild meat is currently unaffordable, mainly as a result of financial constraints but also perhaps due to lack of their ability to exercise distinction (cf. Bourdieu 1984), new and inexperienced consumers entering this market are, at least initially, more likely to accept farmed wild meat than more experienced consumers.

In contrast, consumers who are currently able to access expensive wild meat dishes are more likely to respond to the mass consumption of farmed wild species by viewing them as an ordinary 'every day' product and/or snubbing these species altogether. This slight towards 'common' farmed species would not simply reflect snobbish behaviour (cf. Leibenstein 1950)[46]. Rather, to the extent that they have become considered common, consuming and inviting others to consume such species fails to send the same sought-after signals as accessing, and inviting others to access, rare and precious wild-caught meat (Chapter 5). For example, during the 1990s, larger volumes of lower-quality Russian furs accompanied by a reduction of demand in the West caused prices to fall; as such, furs shifted from being a luxury

[46] Leibenstein (1950) described "snob" and "bandwagon" effects with regard to the consumption of prestige goods: "snobs" prefer unique products and reject them when consumed by the "general mass" (Mason 1981). In contrast, the "bandwagon effect" describes the "desire of people to [...] consume, and behave like their fellows, the desire to join the crowd" (Leibenstein 1950) "Even though snobs and followers buy luxury products for apparently opposite reasons, their basic motivation is really the same: whether through differentiation or group affiliation, they want to enhance their self-concept" (Dubois & Dubesque 1993 in Vigneron & Johnson 1999).

commodity consumed by eiltes to become an ordinary product affordable to a wider middle class consumer market (Dronova & Shestakov 2005).

Wildlife farming making wild meat more widely accessible is therefore likely to encourage existing consumers to become more concerned with the origin of wild meat species, and to seek genuinely wild products either by learning to discern between farmed wild and wild-caught animals or shifting their focus onto species that are not being farmed. In fact, a preference for wild specimens of the now widely farmed Chinese soft shell turtle *Pelodiscus sinensis* is already reported to have developed amongst experienced consumers in China (Shi & Parham 2000). Wild *P. sinensis* are also reported to fetch higher prices in Vietnam because they are considered to have better meat (pers. comm. T. McCormack). Despite some species of birds popular as pets amongst Indonesian consumers being bred in captivity, dealers report consumers sometimes preferring wild-caught birds (Shepherd 2006).

A resurgence in demand for wild bile in spite of - or because of - greater availability of farmed bile mirrors findings of Robinson et al. (2006) in China and Vietnam. This also reflects an effect documented by Meacham (1997) whereby availability of legal goods leads to their more widespread use and, where farmed alternatives are viewed as inferior, eventually arousing demand for genuinely wild goods where there was none before. In the case of bear bile, both a decline in symbolic values as a result of widespread farming, followed by a decline in consumer confidence in the quality of farmed bear bile amongst a new, larger market of consumers (Chapter 4) who now view it as an health-related "need" (Chapter 5) has, due to embedded preferences for wild-caught products, led to increased demand for wild bile where limited demand previously existed. Given these preferences, it is likely that a similar pattern will be seen for other wild animal products that become widely farmed.

8. Wildlife-Related Knowledge, Attitudes and Consumption

8.1. Introduction

8.1.1. Environmental Knowledge, Attitudes and Behaviour

Raising awareness is considered a key solution in solving many environmental problems in Asia including demand for wildlife (Chapman & Sharma 2001: 125; Shiping et al. 2006; Le 2007). This is based on the theory that knowledge shapes attitudes and, in turn, influences behaviour (Ajzen & Fischbein 1980). Having inspired myriad awareness raising campaigns promoting healthier behaviour, increasing knowledge and awareness has now also become considered central to cultivating pro-environmental action (Chapter 1). But although important, knowledge is just one component within a range of situational factors, environmental values and psychological values that are believed to determine environmental behaviour (Barr et al. 2003). The relationship between knowledge, attitudes and behaviour is extremely complex, mitigated by a range of varying social, political and cultural forces (Chapter 1). This chapter explores the factors that influence wildlife-related knowledge, and the sources and scope of this knowledge amongst the central Hanoi population. It also investigates the relationship between wildlife-related knowledge and awareness and wild animal consumption behaviour. In addition, dominant attitudes towards wild animals and their conservation are examined with a consideration of methodological issues in researching attitudes and knowledge.

8.1.2. Environmental Knowledge and Awareness

Because of the role knowledge is thought to play in determining environmental behaviour, environmental knowledge has been the focus of considerable research. For example, in the USA knowledge about acid rain was shown to be greater amongst men and positively associated with education, age and exposure to television news (Arcury et al. 1987); Egyptian men were shown to perceive themselves to have greater awareness of environmental issues than Egyptian women, and were also more concerned about the environment and demonstrated more positive attitudes towards green purchases (Mostafa 2006); in Sumatra knowledge about local wildlife is reported to be greater amongst men and also positively correlated to educational attainment and length of residence (Nyhus et

al. 2003); in Hong Kong male students were shown to demonstrate higher environmental knowledge, which was also positively related to age and access to television news (Chan 1999); and amongst German and Russian adolescents environmental awareness was found to be higher in women (Szagun & Pavlov 1995); experience of nature is also reported important in forming environmental knowledge amongst Germans (Bogeholz 2006). These studies measured environmental knowledge using a series of true and false and/or multiple choice questions (e.g. Kellert 1991a; Chan 1999), open-ended questions later coded (e.g. Arbuthnot 1977) or asked respondents to quantitatively assess their own level of knowledge (e.g. Mostafa 2006).

No studies have measured wildlife-related knowledge amongst Vietnamese respondents, although television and newspapers, and the internet for younger respondents, have been identified as primary sources of information about wildlife for Hanoians (Venkataraman 2007). In 1999, a study found less than 2% of space was devoted environmental issues and natural resource use in the Vietnamese press, and that this coverage was often ambiguous and inaccurate and lacking in analysis and opinion (Hue 1999), but Anon. (2004) report a 400% increase of wildlife-related newspaper articles between 2002 and 2003. Environmental knowledge is reported to be lacking amongst primary school teachers, and environmental education poorly considered and a low priority (Nguyen 2001). Although the environmental concerns of Hanoians are reported to reflect media coverage, they are also informed by personal experience and observation (Pham & Rambo 2003).

8.1.2. Vietnamese Attitudes Towards Wild Animals

Given that attitudes are thought to influence behaviour, understanding attitudes and trying to cultivate pro-environmental attitudes has recently become central to efforts to curb demand for wild animal products (e.g. Lee et al. 1998; Kang & Phipps 2003; Yang et al. 2007). The traditional Vietnamese worldview is that people should live in harmony with nature (Cuc 1999) but make use of natural resources for survival (Jamieson 1991). In a study of environmental consciousness, Pham and Rambo (2003) found that contemporary Hanoian views towards nature

were largely anthropocentric and utilitarian. Despite the important role of nature in traditional arts, nature was ascribed limited aesthetic value, and there was also little evidence of bio-centric views whereby other species are seen as having an intrinsic right to co-exist with humans (Pham & Rambo 2003). In China, the natural world is also generally considered to exist for the benefit of people (Harris 2006; Harris 2008). According to Harris (2006) this reflects traditional Chinese philosophy, particularly Confucianism, which is an anthropocentric model although it is occasionally put forward as a blueprint for environmentalism.

8.2. Methods

8.2.1. Questionnaire Survey

Nine different attitude orientations towards wild animals and their conservation were measured using nine scales. Each scale comprised a series of five interrelated items designed to measure a single attitude orientation. The items for each scale were mixed and for each item respondents were asked to select one option from a Likert scale of one to five from 'strongly agree' to 'strongly disagree' (Appendix A). Attitude orientations were based on the typology and subsequent scales developed by Kellert and Clark (1980; Table 3.1) and applied in Japan, Germany and the U.S.A (Kellert 1991b; 1993a) and adapted for use in Botswana (Mordi 1987 in Bowman 2001). To measure wildlife-related knowledge and awareness, respondents were asked to self-complete a series of twenty true/false and eight multiple-choice questions (Appendix A). Please see Chapter 3 for more details of these methods and the development of the measures.

Respondents were also asked a series of questions recording the frequency of respondent interaction with wild animals over the last twelve months. These questions were based on a pilot questionnaire with the central Hanoi public (n=33) that included open questions about interactions with, and experience of, wild animals. The pilot survey also investigated media access amongst central Hanoians. Following the pilot, a question on hours spent listening to the radio was replaced by recording the number of days upon which the respondent listened to radio news, and newspaper and magazines were combined since respondents rarely distinguished between them. For each medium accessed in the last seven

days, respondents were asked to describe any wildlife-related articles, programmes, adverts or news items seen/heard/read/discussed; whether or not respondents were able to recall any information was recorded as well as details of the description they gave.

8.2.2. Statistical Analysis

Wildlife-related knowledge and awareness scores were attained for 93.3% of respondents (n=854). Independent t-tests, Spearman's rank and one-way ANOVAs were used to identify significant differences between, or correlations with, scores according to respondent characteristics, media access and participation in wildlife-related activities including wild animal consumption. Multiple linear regression was then used to investigate the predictive value of different variables on scores when all other variables are held constant. Variables significantly related to knowledge and awareness score were entered in one block using the forced entry method; those that did not improve the ability of the model to explain variation in scores were subsequently removed. Additional variables were then added in further blocks. For multivariate analysis, education, family income and personal income were treated as categorical data using dummy variables.

8.2.5. Semi-Structured Interviews

Qualitative data presented in this chapter are drawn from SSIs with the central Hanoi public (n=39) and, to a lesser degree, from those with wild meat consumers (n=39). Because they widely featured in the Vietnamese media and debated amongst the public at the time of the research, the tigers being bred by a private entrepreneur in Binh Duong province (Box 8.1) became a central theme of the interviews used to explore wider values and awareness. The interview quotes presented indicate the primary themes of the interviews unless noted otherwise.

Box 8.1. Tiger Farming and The Controversy of the Private Tiger Breeder in Binh Duong

On 13th March 2007 the Vietnamese News Agency (VNA) reported up to 37 tigers being kept illegally in Binh Duong province (VNA 2007c). The same article quoted a letter from the government stating "the act of illegally breeding tigers by organisations and individuals [...] breaches the State's regulations on managing, protecting and developing rare, endangered forest animals, which needs to be strictly dealt with". The Ministry of Agriculture and Rural development (MARD) is said to have advised the Prime Minister to confiscate the tigers and give them to "authorised organisations" (VNA 2007c).

A week later, a letter to the Prime Minister from the breeder - Mr Tan, the Director of a beer company - appealing to allow him to keep the tigers was published (VNA 2007e). Mr Tan claims he had applied to the relevant authorities after purchasing six baby tigers in poor health in 2000. He also stated that "Decree 32 dated June 30, 2006 of the Prime Minister stipulates that the State encourages, supports and protects the legal rights and interests of organisations, families and individuals in managing, protecting and developing rare and endangered plants and animals". He then appealed to be able to keep the tigers to "breed and preserve" and set up a "wildlife preservation zone" (VNA 2007e).

On 26th March 2007, details of a letter sent to the Prime Minister and signed by several international conservation NGOS were published. The NGOs argued there was no evidence to support Mr Tan's claim of breeding the tigers for the purposes of conservation and pointed out that as yet there is no case of captive-bred tigers successfully adapting to a wild environment. They also emphasise the opportunity for the government to make a clear stand to show they will not tolerate captive breeding and trading in tigers.

The public were reported to support Mr Tan on the basis that since alternative rescue centres were unable to breed tigers as successfully it is better to allow the current breeder to "increase the number of tigers in Vietnam" (VNA 2007d). Mr Tan subsequently reported he expected to have bred 364 tigers by 2012 (VNA 2007a). "Thus", reported VNA (2007b), "the opinion of some international organisations is contrary to Vietnamese public opinion. On March 22, Minister of [MARD] visited Binh Duong and "praised the number-one tiger breeder of Vietnam" (VNA 2007b), stating that anyone who breeds tigers to rescue and preserve them must be respected. Mr Tan now has permission to continue breeding tigers.

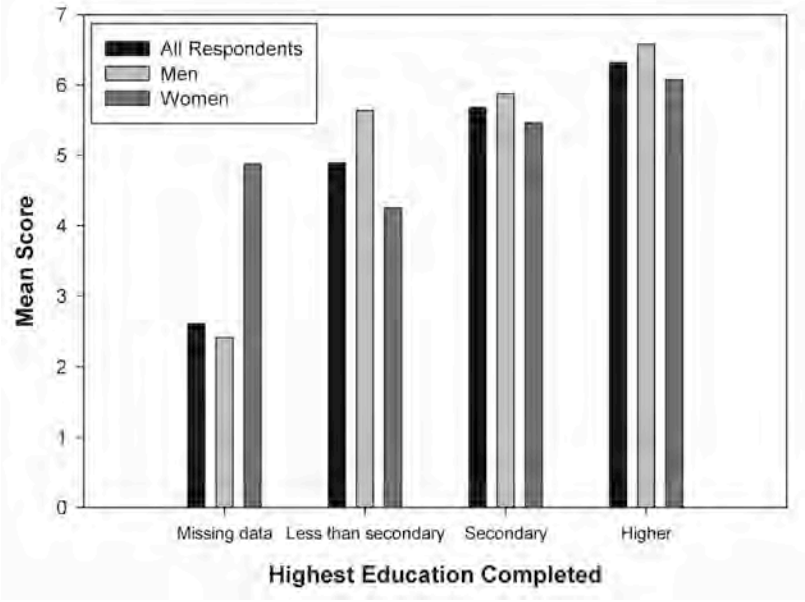
The majority of tiger farms in neighbouring China are widely considered to be for commercial gain rather than for conservation (Green et al. In Press in Nowell and Xu 2007). Private ownership of tigers is also growing in China, backed by the government (Nowell & Xu 2007).

8.3. Results

8.3.1. Wildlife-Related Knowledge and Awareness Score

There are significant increases in mean score ($F[2,838]=28.05$, $p<.01$, $\omega=.24$) between each education group (Figure 8.1). This effect is largest amongst women ($F[2,410]=24.42$, $p<.01$, $\omega=.32$) but also exists amongst men ($F[2,421]=7.69$, $p<.01$, $\omega=.17$); however, amongst male respondents, a significant difference in mean score is found only between those with and without higher education. Responses are rarely omitted at random, and one might expect respondents for whom education data are missing to have completed a relatively low level of schooling. Surprisingly women for whom education are missing achieve a high mean score (Figure 8.1), but data are missing for just twelve respondents including only four women.

Figure 8.1 Mean score achieved according to highest education completed and sex (n=854):



On average, men achieved significantly (t[834]=-4.82, p<.01) higher scores (M=5.97, SE=0.11) than women (M=5.27, SE=1.00); the size of this effect is r=.16. Age (r=.12, p<.01) is significantly positively correlated with score, but this effect is only significant amongst men (r=.18, p<.01) when data for each sex are analysed independently. The average score achieved by those in the lowest personal income quartile (M=5.05) is significantly lower (F[3,755]=6.29, p<.01, ω=.14) than for those in all other quartiles (M=5.70, 5.833, 5.90); analysing score for men and women separately, this effect is only significant amongst women (F[3,369]=5.59, p<.01, ω=.20). Family income, occupation and birthplace have no significant influence on scores.

With regards to media access, both the number of hours respondents reported watching the television news (r=.26, p<.01), or days on which they reported reading a newspaper (r=.15, p<.01), during the last seven days have significant positive relationships with score. Time spent on the Internet, listening to radio news or specifically discussing wildlife-related issues did not influence scores significantly.

Those who reported reading about wildlife in the last twelve months achieved significantly (t(831)=-2.49, p<.05) higher scores (M=5.88, SE=0.12) than those who did not (M=5.51, SE 0.09); however the effect is relatively small (r=.08). In

contrast, respondents who reported eating wild meat in the last year attained significantly ($t(849)=-2.85$, $p<.01$) lower mean scores ($M=5.22$) than non-consumers ($M=5.72$); this effect is also small ($r=.10$). Participants who reported taking a photograph of wild animal ($t(849)=-2.47$, $p<.05$) in the last twelve months also achieved significantly lower mean scores ($M=5.18$, $SE=0.22$) than those who did not ($M= 5.66$, $SE\ 0.08$); again, the effect is slight ($r=.08$). Whether or not respondents reported undertaking other wildlife-related activities, including visiting a zoo, visiting a nature reserve, hunting, fishing or consuming a wild animal product other than wild meat, did not significantly impact scores.

Although there are no significant differences in education between men and women, there are significant differences in the education accomplished between age quartiles ($\chi^2[6]=66.80$, $p<.01$). Likewise, there are significant differences between income groups in terms of education level achieved ($\chi^2[6]=66.50$, $p<.01$). These examples suggest the relationships between these variables may in fact be more complex, i.e. if the effects of education were controlled, age and/or income may be become less or more important in terms of their influence on score, and vice versa. For these reasons, I also present the results of multivariate analysis below.

8.3.1.1. Multivariate Analysis

Education had by far the largest effect on wildlife-related knowledge and awareness score (Table 8.1): respondents who had completed secondary or higher education scored significantly higher ($p<.01$), and the non-response education group scored significantly lower ($p<.05$), than those who had not completed secondary education; it is likely that those who failed to respond completed a relatively low-level of education (Table 8.1). Compared to education, sex and wild meat consumption have much smaller but similarly sized impacts on score: men scored significantly higher than women ($p<.01$) and respondents who reported wild meat

Table 8.1 Linear regression showing the role of respondent characteristics on wildlife-related knowledge and awareness score (n=854):

Predictor variables		**Step 1**			**Step 2**			**Step 3**		
		B (SE)	β	Sig.	B (SE)	β	Sig.	B (SE)	β	Sig.
(Constant)		3.67 (0.26)		.00	3.31 (0.27)		.00	3.48 (0.27)		.00
Age (years)		0.02 (0.01)	0.14	.00**	0.13 (0.01)	0.09	.01*	0.01 (0.01)	0.09	.01*
Sex (Reference category: women)		0.65 (0.14)	0.15	.00**	0.57 (0.14)	0.13	.00**	0.62 (0.14)	0.15	.00**
Education (Reference category: secondary education not completed)	Non-responses	-1.31 (0.73)	-0.60	.07	-1.62 (0.72)	-0.07	.03*	-1.68 (0.72)	-0.76	.02*
	Secondary education completed	0.93 (0.18)	0.22	.00**	0.81 (0.18)	0.19	.00**	0.83 (0.17)	0.19	.00**
	Higher education completed	1.59 (0.19)	0.34	.00**	1.41 (0.19)	0.30	.00**	1.44 (0.19)	0.31	.00**
TV News (days watched in last 7)						0.19	.00**	0.15 (0.03)	0.18	.00**
Wild Meat (Reference category: no consumption in last 12 months)								-0.64 (0.16)	-0.13	.00**

Model: R^2 = .12 for Step 1; ΔR^2 =.03 for Step 2; ΔR^2 = .02 for Step 3 (F = 23.49, p <.01). ** p<.01, *p<.05

consumption in the last twelve months scored significantly lower ($p<.01$) than those who did not (Table 8.1; Table 5.2). The latter result suggests increasing wildlife-related knowledge may play a role in reducing wild meat consumption. In contrast, reporting consumption of a wild animal product other than wild meat did not contribute to predicting score and was therefore excluded from the model.

Finally, the number of days respondents reported watching the television news during the previous week ($p<.01$), and respondent age ($p<.01$), were both positively associated with score; however, the effect of these predictors on score is relatively small. Despite earlier analyses suggesting personal income being important, at least amongst women, this variable did not contribute to the model's ability to predict score and was therefore excluded. Similarly, wildlife activities including photographing wild animals and reading a wildlife-related book did not contribute to the final model.

8.3.2. Knowledge of Native Biodiversity

Despite these quantitative findings, qualitative results show only limited variation in knowledge and awareness of native biodiversity and species status according to age or education. Most interviewees were only able to identify very few, if any, wild animal species found in Vietnam or those that are endangered. Those interviewees who did display superior knowledge about native biodiversity, species status and also conservation tended to be male, but men were not consistently more knowledgeable. Species identified were typically large and charismatic such as bears, tigers, elephants, rhinos, monkeys, deer and the redheaded crane. Only a handful of interviewees referred to Vietnam's Red Book of Endangered Species. Although few interviewees were aware of specific species, many do perceive the number of wild animals in Vietnam to be generally declining, potentially endangering some species. Approximately half of the interviewees - men and women of a variety of ages but most with secondary education or above - also consider Vietnam to have a relatively rich diversity of wild fauna, while a small number also made reference to endemic species:

Female service worker aged 48, secondary education completed:
Int: How significant do you think wildlife in Vietnam is?
CN23: Generally speaking, from what I know I think wildlife in Vietnam is diverse. We have some rare species that other countries do not have. [...] For example, langurs and red-headed cranes that only Vietnam has.

Female undergraduate student aged 19:
Int: Vietnam is still a developing country and needs investment in many other aspects. Do you think we should invest in wildlife conservation?
CN03: I think yes because Vietnam has many rare and precious species. I think we should conserve those animals because rare species are declining in numbers. According to some recent news on TV, there are only a few animals like that; they are almost extinct.

However, the remainder - again many with secondary education or above - think rare species are found elsewhere; widely accessed foreign television programmes - which interviewees suggest are biased towards African and Amazonian wildlife - contribute to this view:

Retired female state official with secondary education aged 58:
Int: Can you tell me or describe any rare species that live in Vietnam?
CN35: Tigers, elephants, bears, monkeys. Actually, Vietnam does not have many rare species such as lions or rhinos. Maybe we have but we have not found them yet.

Retired male skilled worker aged 75, primary education completed:
Int: Can you describe any rare and precious animals in Vietnam?
CN26: Maybe there are more rare and special animals in other countries than in Vietnam. I have seen many exotic species on TV.

Male skilled worker aged 26, secondary education who goes hunting in Vietnam:
Int: Can you tell me if wildlife in Vietnam is significant in terms of global biodiversity?
CN15: I don't know. I watch programmes on the Discovery Channel and know that other countries have many exotic species. I have not been to many places in Vietnam so I don't know.

Interestingly, a reasonable proportion of interviewees - including those who were relatively knowledgeable about wild animals in Vietnam - expressed the belief that Vietnamese species are interchangeable with other regions of the world. This leads to the understanding that species can be replaced from elsewhere if they become extirpated in Vietnam:

Female undergraduate student aged 18:
Int: So do you think Vietnam should make more protected areas like this?
CN07: Vietnam should have areas like that, but animals in Vietnam are not new or exotic. Almost all animals we have also exist in other places. Therefore, if we have protected areas, we should import animals from other countries. I don't know but I think in each country there is one specific species. Some countries may have three or four but I think Africa has the most interesting species.

Retired male aged 75, wild meat consumer and ex-hunter, knowledgeable about wild animals and thinks they should be better managed, education unknown:
Int: Can you name any animals that are specific to Vietnam?
CN04: Specific to Vietnam? I think we have elephants, tigers, deer. Recently one-horn rhinos have been found in Phu Yen. There are also wild buffalos, some kinds of birds, and wild chickens. Generally speaking, Vietnam has some species that also inhabit the Amazon forest.

Male farmer aged 30, primary education, wild meat consumer:
Int: You said Vietnam should conserve wild animals, for what purposes should we conserve?
CN28: Some rare species are hunted, so we have to protect them from extinction [...] If rare species are extinct, there will be some effects. We have to import animals from other countries.

If central Hanoians were better aware of the unique biodiversity found in Vietnam and the fact it cannot be replaced by species found elsewhere, it is possible they might be more concerned about protecting what they have.

8.3.3. Sources of Wildlife-Related Knowledge and Awareness

Despite large proportions of respondents reporting watching television (96.4%) and television news (86.6%), and reading newspapers (67.5%), only exposure to television news was significantly associated with score (Table 8.1). Nevertheless, while 29.3% of those who reported watching television were able to recall specific details of wildlife-related television items viewed from the last week, less than 10% of those who reported accessing other types of media, including television news, were able to do so; Table 8.2 summarises the information recalled for the most accessed media. This suggests television is an important potential source of wildlife-related awareness despite apparently not contributing to demonstrable wildlife-related knowledge.

Table 8.2. Summary of descriptions of wild-related information recalled from the last week according to most frequently accessed media

Television	The main sources of information about wild animals on television are 'Animal Planet' shown on VTV2 and other foreign wildlife programmes on the 'Discovery Channel': respondents report watching the lives of large charismatic animals such as tigers, lions, leopards, bears, elephants, dolphins, monkeys, polar bears and birds such as cranes, and were also sometimes able to describe specific animal behaviours such as mating, rearing young and hunting.
Television News	Descriptions of wild animal related information on television news were dominated by stories about farming wild animals – particularly tigers and bears – and the confiscation of illegally traded species. To a lesser extent coverage included, in order of frequency reported, bans on hunting of wild animals; the conservation status of different species; damage inflicted by wild animals; crop damage by elephants; discovery of new species.
Newspaper	Reports of wild animal-related information accessed in newspapers were dominated by reports of the confiscation of illegally traded wild species, followed by captive breeding of tigers; adverts for bear bile; stories about conservation and/or species status.

Qualitative data suggest this is because, although programmes about wild animals are widely accessed and enjoyed, they tend to focus on non-native wildlife and be broadcast in English; neither dubbed nor subtitled in Vietnamese, their educational value is limited. That newspapers provide limited wildlife-related knowledge and awareness is also demonstrated by qualitative data:

> Male unskilled worker aged 49, passionate and knowledgeable about wildlife:
> *Int: What stories do you see in newspapers about wild animals?*
> *CN01: The media seldom covers this [...], if you read through all the newspapers available you can see many stories about socioeconomic news, but I hardly see any news about wild animals. There is little information dissemination. I usually have to watch the news on the Discovery Channel and foreign programmes. I just watch them but do not really understand; I don't know any foreign language.*

> Retired male aged 75, wild meat consumer and ex-hunter, knowledgeable about wild animals, education unknown:
> *Int: Do you see any stories about wild animal in newspapers?*
> *CN04: I read lots of newspapers, but for wild animals I often watch VTV2, the programmes about wild animals in Africa [...]. They are about wild animals' life such as zebra, lions, hippopotamus [...]. Or in the Amazon forest, there are many stories about wild animals. About our country: I saw some [wild animals] when I was a soldier.*

The wildlife activity that by far the most respondents participated in was visiting a zoo: 52.1% reported visiting a zoo in the last twelve months. But the lack of association between this activity and knowledge score is predictable given the absence of information provided at the zoo (pers. obs.). It is also unsurprising that visiting national parks - which 16.1% of respondents reported doing in the last year - had no significant impact on scores. Qualitative data show that experiences of national parks typically comprise day trips involving a meal at the destination but rarely walking into the reserve or visiting education centres where available, and almost never observing wild animals other than in the context of hunting or eating wild meat.

However, qualitative data suggest firsthand experience of environmental problems influences knowledge, awareness and outlook more than either formal education or mass media. When asked about environmental problems in general, interviewees typically focus on problems they personally encounter, and for Hanoians this is pollution:

Retired male aged 60, secondary education, born in Hanoi:
Int: What environmental problems does Vietnam have at the moment?
CN14: Air pollution, it's difficult to breath. It's so dusty here, and there is lots of exhaust fumes from motorbikes. It's very polluted now.
Int: What about rural areas?
CN14: Industrial zones have caused some pollution in the rural area. Before, there was a lot of space, such as lakes and ponds to regulate the air. But now, due to [price of/demand for] land increase, people have sold lakes and ponds to build houses.
Int: Are there any problems with forests and wetlands?
CN14: Your question is beyond my knowledge because I have never been there. I don't want to re-tell the things I have read in the newspaper because you yourself can do that [talks at length about not being able to trust what is reported in newspapers]. For lakes and ponds, that's something I can see with my own eyes. For example, in Hanoi, in Thanh Nhan area, there were many ponds and lakes before. Now, people have drained the ponds and lakes. For clearing forests, I have not seen with my own eyes; I cannot tell.

Female undergraduate student aged 22, born in Hanoi:
Int: What environmental problems are there in Vietnam?
CN12: Water pollution and rubbish. People throw rubbish irresponsibly [...] generally speaking places are becoming more polluted because most companies have factories there. In the city, people may have good knowledge and awareness of the environment, but people in the other places may not pay enough attention to the way factories discharge rubbish. So I think these places are becoming more polluted.

In contrast, those with personal experience of rural areas tended to demonstrate better awareness of wider conservation-related issues, and to consider conservation a greater priority:

Retired male skilled worker and ex-hunter aged 47, education unknown:
Int: What about Vietnamese hunters?
WM04: The people who live near the forest are very poor. They have to go hunting to earn their living. [...] In Vietnam even small birds are caught for meat. Vietnam is rich in natural resources such as forest products, but local people have to live in bad conditions. In some areas, people are destroying wetlands and swamps, which serve as habitat for wild animals. They farm shrimps and do whatever they like. Another example to show that people have low awareness of protecting nature and wildlife is that there was a plan to build Ho Chin Minh trail through Cuc Phuong forest, dividing the forest into two parts. If there were no international assistance in terms of planning, the forest would be destroyed.

Male service worker aged 24, primary education, born in Lao Cai province and worked for a timber company in Laos:
Int: Can you tell me about wild animals in Vietnam, maybe, unique to Vietnam or Laos?
WM09: In southern Laos there are very big black bears, and sun bears in northern Laos. There are some smaller bears in areas along the Vietnam-Laos border [...] They are in danger of extinction both in Vietnam and Laos. There are more wild animals in Laos than in Vietnam. Whenever people hear about the appearance of any animals, they come to shoot [...] Even very young animals are hunted. I hear that young bears of about five kilos are caught and put in alcohol jars. One jaw of a young bear may cost 90m VND. These bears are caught in the border.

Female professional aged 52, university degree, lives in rural Ha Tinh Province:
Int: The economy in Vietnam is growing very quickly. Do you think the government is doing a good job in balancing environmental concerns with development?
CN30: Not very good. Because people still destroy the forest. We do not reforest as much as we should. For example in some forests near the coastline, people have logged 20-year-old trees to get titanium for exports. They may get some economic gain from selling titanium, but the long-

term environmental damage is disastrous [...] if we develop too quickly without taking care of the environment, the environmental damage may have adverse effects on people. [...] Some people in the South have destroyed mangroves to make shrimp and catfish farms. The consequence of that is salination of land makes it impossible for them to grow more crops or farm more shrimp [...] The economic gain from this project was little but the damage was huge.

8.3.4. Wildlife-Related Knowledge and Wild Animal Consumption

Respondents who reported wild meat consumption in the last twelve months scored significantly lower on the wildlife-related knowledge measure than those who did not (Table 8.1). In contrast, consumption of wild animal products other than wild meat was not correlated with scores at all. This suggests increasing wildlife-related knowledge and awareness may play a role in reducing wild meat consumption, but not in the consumption of other wild animal products. This is perhaps because the dominant wild animal product reported consumed besides wild meat is bear bile, and bear bile is widely considered a necessary medicinal product (Chapter 6). In contrast, wild meat may be seen, at least by some, as a luxury rather than as essential for human life. As such, individuals might be more susceptible to awareness raising campaigns aiming to reduce demand for wild meat than to campaigns aiming to reduce demand for wild animal-derived medicines.

Having said that, qualitative data clearly show that many consumers continue to eat wild meat despite awareness of hunting and trade-driven wildlife decline, wildlife-trade related legislation, and wildlife consumption being generally discouraged; since rarity is an important driver of consumption of wild animal products (Chapter 6), it is of course possible that consumers choose to eat wild meat *because* they are aware that it is rare rather than *despite* it.

Consumers typically also disassociate personal consumption behaviour from hunting-driven wildlife decline:

Businessman and wild meat consumer aged 56, secondary education:
Int: You have not gone to eat wild meat much in the past year.
CN25: Rarely.
Int: Why so?
CN25: I only went because my friends kept inviting me. I don't really want to go because I don't think wild meat is very delicious, and [...] from what I have seen on TV, I am aware that Vietnam suffers a great loss if our animals are killed.
Int: Do your friends not share the same view with you?

CN25: Some people share the same view, but some people still continue eating wild meat. Not many people care. Most of them still want to eat, therefore, restaurants are doing good business. Wild meat restaurants are crowded. Not many people have good awareness.
Int: Do you think eating wild meat is less impressive these days compared with in the past?
CN25: Yes, I think so because it was new in the past. [...] And also, there are some educational programmes on television and newspapers, so people have better awareness now. [...] The government has inspected and monitored many restaurants. Those that purely sell wild meat are banned [...]Actually, eating wild meat is prohibited. There are inspection groups who fine restaurants selling wild meat. There are many loopholes in our regulations.

Male skilled worker and wild meat consumer aged 44, secondary education:
Int: Do you think in order to conserve wild animals eating wild meat should be stopped?
CN20: If we can do that effectively, wild animals can be conserved. Now we are talking about conserving wild animals; many laws are saying protect and conserve wild animals, but how come we still see wild meat in restaurants? The government bans hunting [...] but wild meat is still available in restaurants. So there are still things our government has not done effectively yet.
Int: When you go to Hai Phong [this weekend], *will you try some wild meat dishes?*
CN20: If there are some.

Most interviewees blame "people" and human actions for endangering wildlife; specifically, most consider deforestation and hunting to be the main threats:

Male service worker aged 39:
Int: In your opinion what are the main threats to animals in Vietnam?
CN05: There are two reasons. First, the loss of forests leads to the loss of habitat for animals; wild animals have to go somewhere else. Second is people's hunting. These are the two reasons. [...] Because wild animals live in the forests, if there is a forest, they will stay. If forest is destroyed, then they will go. That's simple.

Female housewife aged 60, primary education:
Int: Do you know why these species are threatened?
CN06: I think because of deforestation and hunting. Consequently, rare species are in danger of extinction. I think so because people think for themselves first; they want to hunt animals to sell. Besides, there's a lot of deforestation in many places.

But although most interviewees were also aware that hunters mainly sell, rather than subsist on, their catches in order to supply restaurants in Vietnam and China, they very rarely directly make the link between consumption of wild animal products and hunting. Instead, lack of education and/or awareness, particularly amongst ethnic minority groups, is often blamed for both deforestation and hunting. Given shifting cultivation practiced by ethnic minority groups is widely considered a threat to natural resources, and these groups are generally viewed in a negative light by the Viet majority, it is unsurprising that they are commonly cited scapegoats for wildlife decline:

Female undergraduate student aged 22:
Int: You said more and more animals in Vietnam are endangered, what are the causes?
CN03: People's low awareness, they don't know the animals are endangered, they only think about their own benefits. If people know animals are endangered, they may know that if animals die out, they wont have anything to hunt. The most important thing here is people's awareness [...]. Both you and I know - urban people. For rural people [...], people in mountainous areas: they don't know much about the importance. If they were more aware, they would hunt less [...] As for deforestation, [...], people from mountainous areas, in the Central Highlands, are not fully aware; they have destroyed the forest for wood for a long time.

Male skilled worker aged 39, secondary education:
Int: So when a country develops, do you think it's necessary for it to lose wildlife populations?
CN05: The problem is, I don't know the situation in other countries, but in Vietnam deforestation is not necessarily caused by economic development. The reason is some ethnic minority groups living in mountainous areas clear forests to make land to cultivate. After each season, they don't want to continue cultivating on the same piece of land, instead, they move to another area; starting clearing the forest, and so on. Their ways of farming cause deforestation. Some people also destroy the forests by illegal logging but people from ethnic minority groups destroy the forests the most. Deforestation is mainly caused by their farming methods, so we need to change their habits to put an end to deforestation.

Corresponding to the perceived lack of awareness, raising awareness is identified as a primary tool for conserving wildlife. Interviewees, including consumers, think once fully informed of the 'importance' of wild species, those responsible for harvesting them will protect wild species instead:

Male service worker and wild meat consumer aged 24, primary education:
Int: Do you think that there's anything that can be done to protect them?
WM09: First, it is necessary to enhance people's awareness. In some areas, local people even catch very young animals. They only think how to earn their living, and they think that wild animals can bring them a lot of money. They don't care about the national value of these animals or do anything to protect wildlife. In my opinion, we should begin with educating young children like school pupils about the needs to protect wildlife is one of the most important tasks.

Retired male state officer aged 71, university degree, reported eating tiger in the last year:
Int: How do you think that could be changed?
WM10: First, we should educate people about the importance of protecting wild animals or enhance their awareness of the importance; we should carry out advocacy activities.

Relatively few acknowledge the role of poverty in dependence on hunting wild animals or that local people may be able to manage natural resources most sustainably, at least prior to recently inflated urban demand for wild meat. Interviewees also very rarely identify actions targeting wildlife consumption, again apparently decoupling personal consumption behaviour from threats to wild species:

Male skilled worker and wild meat consumer aged 37, college education:
Int: What do you think should be done to conserve wildlife?
WM26: The best way to protect them is not to hunt them [...] if we see someone intending to hunt an animal, we should persuade them to stop [...] There should be stricter regulation on hunting to protect wild animals. Because at the moment, when there is a demand for wild meat, and people can still get away with hunting, then animals will keep being killed.

Retired male state officer aged 71, university degree, reported eating tiger in the last year:
Int: How do you think that could be changed?
WM10: [...] The law enforcement should be stronger; police and forest rangers need to do a better job, stopping people from hunting. [...] wildlife farmers should have permits. The wildlife farming should be well monitored and managed. [...] I think [protecting wildlife] is difficult: many people still want tiger glue though there are few tigers left.

Even non-consumers rarely identify consumers or restaurants as targets for interventions; in fact, only two interviewees, who were also the most passionate and well-informed supporters of wildlife conservation, do so. But even then, while one limits punishment to government officials who consume wild meat, perhaps simply because he perceives them to be the predominant consumers of wild meat (see Chapter 5), the second still identifies ethnic minority groups as the primary target groups for intervention and also thinks, while restaurants should be punished for serving wild animals, eating wild meat is the consumers' prerogative (note also his reference to the social pressures to eat wild meat to show wealth):

Male skilled worker aged 36:
Int: If you don't support farming for commercial purposes, how will Vietnamese people access medicine like bear bile or tiger glue?
CN31: [...] In order to discourage people from using wild animals, we should have strict regulations and we also need to disseminate to people about the wildlife [...] I think we must have strict regulations, to heavily fine or punish those officials who eat wild meat.

Male unskilled worker aged 49:
Int: is there anything to be done to reduce trade in wild animals, to reduce the need for these rescue centres?
CN01: The government needs to disseminate widely to its citizens, especially people from the mountainous areas who are the most important targets. Secondly, they need to set up monitor and inspection groups to inspect wildlife restaurants to heavily fine them if they violate [....] heavy financial penalty with have a deterring effect [...].
Int/; What do you think about people who pay a lot of money to eat wild animals?
CN01: Frankly speaking, there is nothing I can do about that. They pay their own money to eat but we can say nothing. That's their own freedom. No one can forbid that, right? [...] I think that if they loved animals they wouldn't eat [but] in a society there are different people. We condemn those who eat wild animals, but those people just say we don't eat because we don't have money. That's life. But I think we should not eat rare and precious species.

Even when prompted to make the link between supply and demand, consumers and non-consumers both often play down the impact of consumption behaviour:

Retired male aged 60, secondary education:
Int: You say those who hunt are poor, but what about those buying the wild animals they hunt?
CN14: To eat only, then that's not too damaging. What is most damaging is trafficking of animals to other countries. If you go to a wild meat restaurant you may see many people, but not too many.[...] I think trafficking to other countries, especially China, is the most damaging to wildlife. I can see that many species have declined in number.

Male shop owner aged 44, consumer of bear bile:
CN25: I think when there is a government policy to prohibit [wild meat] then it will help. If there is a fine or a punishment then it will work.
Int: You have already benefited from bear bile, what about prohibiting that?
CN25: It's difficult to prohibit consumers. It may be better to target producers and hunters. Once bear bile has become a product, in a bottle, for example, then a bear is already dead.

8.3.5. Conservation Management

Interviewees have a generally negative perspective of conservation management and the government institutions involved. Issues repeatedly raised include poor enforcement of the law; a lack of resources and finance to fund conservation - topically focusing on under-resourced enforcement agencies and centres for animals confiscated from trade than, for example, setting aside habitat for conservation; and hypocrisy and corruption amongst government agencies:

Retired male aged 75, education unknown, wild meat consumer, knowledgeable about wild animals, education unknown:
Int: Do you know any conservation actions that are going on in Vietnam now?
CN04: To be honest, I think people have talked about conservation, but in reality there is still animal hunting. For example, on the way to Luong Son, Hoa Binh there are 10 or more wild meat restaurants. The media has reported about wildlife conservation but all the high-ranking officials in some districts are presented wild animals as gifts or invited to wild meat restaurants, so how can conservation happen? Or for example, 60 turtles were brought to Soc Son[47] last year, but two weeks later most of them died. [...] People have been talking about conservation, but when I went to Soc Son I didn't see any conservation.

Retired male aged 45, secondary education:
Int: How do you think the government can manage the environment?
CN37: Clearing forests is not allowed in Vietnam but some officials are bribed to turn a blind eye to deforestation. Those who clear the forests are often relatives of officials. If officials were less corrupt, then we would be able to protect our forests more. A layman who steals a needle may be sentenced, but an official can get away after stealing a bicycle.

Retired male state officer aged 71, university degree, reported eating tiger in the last year:
Int:: You mentioned earlier that Vietnam should conserve animals by farming. Do you think Vietnam should focus on farming animals to protect them or conserving them in the wild?
WM10: [...] Vietnam is not really conserving animals, because you can see wild animals and wild meat publicly sold in many places. If you have money, you can buy wild meat such as pangolin and cobra. Functional agencies are not doing a good job. So, hunting and trading wild animals is easy, and you can make a good profit.

[47] Soc Son is a state-run 'rescue centre' for wild animals confiscated from illegal trade.

Male skilled worker aged 36:
Int: Do you support the farming of wild species to supply wild meat restaurants?
CN35: [...] In our country there is poor management [...] We have some regulations banning animals trafficking but we don't know what to do with confiscated animals. There is a lot of corruption among forest protection department staff and police, as well as traffickers.

This is an unsurprising response, reflecting many of the current challenges being encountered with wildlife conservation in Vietnam (Chapter 1). But it is likely that these circumstances are to some extent contributing to poor translation of wildlife-related knowledge and awareness into more environmental behaviour at an individual level. Reducing personal consumption behaviour, for example, seems rather futile when those in power are consuming wildlife, and when wider wildlife conservation efforts are undermined by lack of enforcement, corruption and poor survival rates of confiscated wild animals.

8.3.6. Environmental Concern

Unsurprisingly, most interviewees are primarily concerned about environmental problems they can see and which affect their daily lives. Besides environmental problems immediately impacting on their health and wellbeing, very few interviewees consider the environment a priority and most think environmental problems should be invested in once economy is more developed:

Female undergraduate English student aged 19 and born in Hanoi; last week her class had been asked to prepare and give presentations on environmental problems in Vietnam[48]:
CN09: We thought about the causes and effects of market [pollution caused by street markets] and then tried to suggest some solutions [...].
Int: So did any of your classmates give a presentation on wild animals or about conservation?
CN09: Wild animals..? No [...] it's not that we don't care [about wild animals], it's just that the things we see everyday is not wild animals, endangered, the things we see is pollution. Pollution is around, the noise pollution, the air pollution, especially the rivers, the water pollution [...]
Int: Do you read about wild animals in magazines or newspapers?
CN09: Yeah I have read some Vietnamese newspapers and some foreign newspapers, but actually I haven't really cared much about this [...] I think there are more stories about animals in danger of extinction in foreign newspapers because newspapers are written to serve the tastes or needs of people in specific areas, so when Vietnamese people don't care much about animals in danger of extinction, why would reporters write something about it?

Male undergraduate student aged 26 born in Hanoi:
Int: Do you think Vietnam should invest in conservation?
CN08: Actually, in Vietnam people see many other things that are directly related to their lives that need investing in. I think the government should invest in those things. It's not best, but for the time being we don't have enough resources for conservation. I think the government wants to ensure the quality of people's lives first, for example things like transportation or education [...] I think in the future when our country has developed economically [...] we can invest more in

[48] Interviewed in English.

conservation. At the moment there are many other more urgent things to take care of, for example healthcare. We must take care of people's health first.

Rarely encountering wild animals, other than in the context of wild meat restaurants, television programmes or newspaper reports, most central Hanoians interviewed had rarely given wild animal conservation much thought. So although, predictably, most interviewees were generally supportive of wildlife conservation in theory, exploring attitudes towards wild animals and their conservation was difficult within this group, clearly demonstrating that it is not an issue that greatly concerns most people in central Hanoi. Indeed, as shown above, interviewees from rural areas are both more knowledgeable, and more concerned, about wildlife decline than those born in Hanoi.

8.3.7. Attitudes Towards Wild Animals

8.3.7.1. Measuring Attitudes

Despite careful preparation and design (Chapter 3), none of the attitude scales proved sufficiently reliable in final analyses (Table 8.3). Comments recorded alongside certain items also suggested the scales were not consistently measuring the underlying constructs they were designed to measure, bringing the validity of the scales into question. The scales are therefore not used in further quantitative analysis. This section will instead use some of the results - primarily comments of questionnaire respondents recorded alongside attitude scale items - to investigate the failure of the scales and the suitability of this method to researching attitudes.

Respondent comments demonstrate that certain items were interpreted in a variety of ways by different respondents, and therefore that these items were not consistently measuring the same underlying attitude orientation for each respondent or as the remaining four items comprising the scale. For example, it became apparent that, in addition to the intended attitude orientation of animal welfare ("disagree: it's savage!"), the statement "I enjoy watching cock fighting" was also measuring attitudes towards gambling ("I disagree: a waste of time and money!") and traditional heritage ("I agree: it is traditional").

Table 8.3. Results of Reliability Analyses (n=915)

Scale	Cronbach Alpha[49]
Aesthetic	0.639
Dominionistic	0.468
Ecologistic	0.539
Moralistic	0.471
Naturalistic	0.471
Utilitarian-Consumption	0.419
Utilitarian-Habitat	0.376
Wild Meat Consumption	0.569
Wildlife Conservation	0.234

The comments also reveal that respondents were aware of the complexity of the issues raised by individual items, and in these cases asking them to assign a simple agree or disagree response seemed unfair. For example, asked whether they think the Vietnamese government should invest in wildlife conservation (in order to measure attitudes towards wildlife conservation, agree being considered a positive response), some respondents agreed with this in theory but were so concerned about any investment going to waste due to corruption that they decided to disagree. Other respondents agreed but would then append "depending on the economy" making it unclear whether they valued economic growth or the environment more. In fact is it fair to ask anyone to make this distinction? While economic growth often requires exploitation of natural resources, proper management of natural resources requires funding, and economic development could also be viewed as reducing some of the immediate pressures on natural resources. In addition, a simple agree/disagree response does not increase understanding of the values behind such decisions, and is therefore limited in its ability to inform attempts to influence attitudes to promote environmental behaviour.

Furthermore, there was evidence that attitudes were not static but were constantly being reformed. For example, one statement asked respondents to choose between conserving the habitat of a rare species and hydroelectricity. This became suddenly pertinent to everyday life when, half way through the data

[49] Scales should ideally have a Cronbach Alpha of 0.7 or above to be considered reliable.

collection period, large areas of Hanoi experienced scheduled power cuts due to water shortages. Having suddenly shifted from a hypothetical problem to an everyday reality, attitudes became overwhelmingly in favour of more hydroelectricity. Not only did this reduce reliability of the overall scale but it also suggests attitudes expressed by earlier respondents did not necessarily reflect their true attitudes or intentions, and indeed suggests that people do not have 'true attitudes' but rather that choices are almost always dependent on context.

8.3.7.2. Utilitarian Attitudes

Qualitative data demonstrate a dominant utilitarian attitude towards wild animals amongst the central Hanoi public. Almost all interviewees support farming wild animals to provide meat and medicine; a handful of non-wild meat consumers support wildlife farming only for medicinal goods, viewing the latter as essential, but wild meat as non-essential. Indicating a lack of awareness and understanding of the expertise and resources required to raise many wild species, most believe these farms should be commercial ventures run by ordinary farmers. Overwhelming support for wildlife farming is primarily driven by a belief that wildlife farming can promote economic development and alleviate poverty. Interviewees' focus on economic growth reflects that of the government: Vietnam's media are dominated by economics-related news and the economic benefits of farming wild animals are often featured. Many of those who support wildlife farming for economic growth are also those consumers who state active preferences for wild-caught products (Chapter 7):

> Male skilled worker and wild meat consumer aged 30:
> *Int: Do you think Vietnam should farm more animals like with bears and tigers?*
> *CN28: For economically valuable species like snakes or soft shell turtles, we should farm to have more money. For example, the crocodile farming model in* Hải Dương *province can work in places where food supply is abundant and cheap, so people can make a lot of profit. [...] Some species should be farmed because they are lucrative, which can lift farmers out of poverty.*
>
> Female unskilled worker aged 41:
> *Int: Why did the government not want to allow* [tiger farming in Binh Duong]*?*
> *CN27: Because they were afraid of the damage. [...] But I think if the government allows people to farm rare species that can contribute to economic development. People can farm tigers to make bone glue, for example.*

Many interviewees also support wildlife farming because it can help to meet a 'need' for wild animal products and 'demands' for wild meat (see also Section

6.3.2). Wild animal-derived medicines being 'necessary' is a sentiment expressed particularly, but not exclusively, by older interviewees; this is most likely because older interviewees currently perceive themselves as having most need of such medicines (see also Chapter 5). Likewise, wild meat consumers in particular argue the view that wild animals should be farmed to supply wild meat:

> Retired female skilled worker aged 72, uses bear bile:
> *Int: Should we increase [the number of animals by farming]?*
> *CN22: [...] Bears are used for bile, tigers are used for their bone. [...] As the country develops, we may need more products from animals like bear bile or tiger bone glue, because these products are good [...] for health. There are only a limited number of tigers in the wild but people need their bones; tiger bones are rare, so if we can, we should open more farms.*
>
> Female student aged 22, has yet to use a wild animal-derived medicine or eat wild meat:
> *Int: Who do you think eats wild meat?*
> *CN02: I think those who have money because only those who have lots of money and want to try something exotic. And maybe, there are animals that can offer good medicine to cure diseases. I think [...] why don't we create a source of supply, I mean, why don't we farm animals to provide the supply?*
>
> Male skilled worker aged 58, wild meat consumer:
> *Int: Why do they spend money on that?*
> *WM02: Because they have normal food every day, so they want to eat wildlife meat as speciality for a change. They are bored with eating the same food every day [...] If everyone demands wild specialities, there will be no wild animals left in nature. When there are no wild animals, it is indispensable to farm animals to meet the demands.*
>
> Male aged professional aged 24, wild meat consumer:
> *Int: What do you think about farming wild animals for meat?*
> *WM33: I think it is a good proposal because people's needs for wild meat are increasing. However I don't think we should abuse the increasing needs for these kinds of meat to hunt and kill more wild animals, which badly impact the environment. Wild animals need to be conserved.*

The final interviewee quoted above believes 'increasing needs' for wild meat need to be met, but that the opportunity created by this demand should not be used to exploit animals from the wild. Though the latter is probably said for the benefit of the interviewers, it is interesting that, despite his desire to say the 'right' thing, he still views it necessary or "indispensable" to meet these demands, rather than, for example, suggesting this demand should be mitigated.

In addition to contributing to economic growth and meeting growing demand for wild animal products, many also think wildlife farming can conserve wild species, mainly through reducing hunting. Again this includes consumers who prefer wild-caught products. This contradiction may arise because one or other of the

statements is what the interviewee believes they should do rather than what they would actually do or, as already demonstrated, because consumers uncouple personal consumption from wildlife decline. It is also possible that consumers are evading information in order to form the most satisfying conclusions, rather than the most rational:

> Male government officer and wild meat consumer aged 51:
> *WM14: Wild meat is certainly delicious, more delicious. It is because farmed animals are fed with processed food.*
> *Int: Now some wild animals are being farmed, for example porcupine, soft shell turtle. What do you think about that farming more wild animals to supply restaurants?*
> *WM14: If the farming is allowed, it'll be a good idea: it meets demands for wild meat and may help with conservation. It should be encouraged.*

> Male skilled worker and consumer aged 35:
> *Int: The government plans to farm animals like civet to supply meat to restaurants. What do you think about that idea?*
> *WM31: I think the idea is good, because people don't have to go hunting [...].*
> *Int: So if you went to restaurants where there is farmed wild meat and wild meat, which would you choose?*
> *WM31: I would choose the wild one, even though it was more expensive [...] wild meat is certainly more delicious than farmed meat.*

Only a few supporters identify any potential difficulties involved in farming wild animals or detrimental impacts this could have for wild populations. Moreover, very few interviewees – both consumers and non-consumers - think wild animals should not be farmed at all, and only one supporter of wildlife farming stipulated "rare and endangered" species should not be farmed. Mostly these interviewees do not support wildlife farming because farmed products are considered inferior (see Chapter 7) and an even smaller number because they fear management is too poor so farming will facilitate illegal trade in wild-caught animals and/or will not serve to conserve wild species.

Some interviewees also demonstrate a utilitarian attitude towards the conservation of wild animal species. For example, although it is not surprising that most interviewees say it is important to protect wild species, it is interesting to note that many support this belief in conservation on the basis that these animals provide services to humans:

> Male skilled worker aged 44, secondary education, wild meat consumer:
> *Int: Do you think wild animals such as tigers and crocodiles should be protected in zoos or in the wild?*

CN20: I think there should be a program which can preserve the animals, because there is a need now in the market for bear galls and tiger glue.

Retired female government official aged 58, secondary education, wild meat consumer:
Int: Do you think Vietnam should invest in wildlife conservation?
CN35: Yes, of course. That's very necessary. Rare species are necessary for people's lives. They need to be protected. Animals and forests should go hand in hand, everyone understands that.

Retired male professional aged 64, university degree:
Int: Do you think Vietnam should focus on conserving economically valuable species?
CN33: No [...] we should conserve all endangered species [...] to maintain their genes, because I think some have value to science [...]. At the moment we may not know about their values, but the next generation might find out.

Many interviewees, typically those with at least secondary education but of a variety of ages and both sexes, believe "ecological balance" and "harmony" is essential to avoid far-reaching detrimental environmental impacts.

Female undergraduate student aged 22:
Int: Do you think we should conserve?
CN02 (laughing): Of course, we should! I don't really understand the concept of ecological balance but I think we should conserve to have ecological balance [...] If all the animals died, that means their environment is destroyed, and then it would affect the whole Earth.

Retired male state officer aged 71, university degree, wild meat consumer:
Int: Vietnam is short of electricity, so do you think that there should be more hydroelectric dams even if this means damaging the habitat of some wild species?
WM10: If you want to implement a project that destroys the wild, you should stop. If you go on carrying it out, you'll make a big mistake. I mean we should keep the eco-balance. You see that natural disasters floods and droughts are due to destructive activities by humans.

This is generally because ecological balance is believed necessary to support and maintain human life:

Male professor, higher education, aged 51, wild meat consumer[50]:
Int: What do you think is the purpose or purposes of conserving forest?
CN38: Because whether it is animals or forest, they are part of the world in which we are living and I believe we can't do without them; I believe the forest and the animals are there just to maintain our own lives so [...] we have to protect them, we have to conserve because in doing that we are protecting our own lives: we are conserving our own lives.

Female undergraduate student aged 22:
Int: *Can you tell me what you think wildlife conservation is about? What its goals are?*
CN12: I think it makes the environment cleaner and fresher. I think in the past our country was cleaner than now. Now people have exploited the nature too much. [...] I think when the environment is destroyed, people's lives will be affected. [...] The forest has the function of a green lung which provides oxygen for people. If the forest is destroyed, then we wont have enough oxygen. Also, there will be floods.

[50] Interviewed in English.

Interviewees also generally view wild animals an integral to these balanced ecosystems, meaning that many believe that maintaining ecological harmony also requires maintaining wild animal populations:

> Male undergraduate student aged 25:
> *Int: Do you think the Vietnamese government should invest in protecting the habitat of wild animals, like wetland and forest?*
> *CN11: The environment consists of many things so we should not focus on just one part, we should grow trees together with protecting animals [...]. They all make an ecosystem and make a fresh environment [...] I think protecting animals is an integral part of protecting the environment. Animals are part of the ecosystem.*

Besides consumptive use and the need for ecological balance to avoid harmful environmental consequences, other reasons for conservation were rarely expressed. This interviewee, who was also relatively well informed about wildlife-related issues, was an interesting exception:

> Male shop owner aged 44, university degree:
> *Int: Why do you think Vietnam should invest in wildlife conservation?*
> *CN25: I think spiritual value is becoming more important than material value. It's important to conserve rare species because once they are extinct, we can never get them back. Apart from the value of ecological balance, I think what is more important is spiritual value.*

8.3.7.3. Concepts of Conservation

Breeding or "increasing the number" of wild animals is considered an important tool in conserving wild species. Almost all interviewees, including one of those most passionate and knowledgeable about wildlife conservation and who does not support farming wild animals for meat, admire the private tiger breeder in Binh Duong because he has successfully increased the number of tigers:

> Male service worker aged 36, knowledgeable and passionate about wildlife conservation and does not support wildlife farming for wild meat:
> *Int: Why do you support the owner of the tigers in Binh Duong?*
> *CN31: [Because in the beginning they had only a few tigers and they have invested in looking after the tigers and helping them to reproduce. They have not killed any tigers. If we confiscate the tigers and take them to the forest, about 90% of animals die after being confiscated. If the government decides to confiscate the tigers then I have a question: why did they allow the owner to breed the tigers in the first place? And now that they have increased the number to thirty to forty tigers the government wants to confiscate them! The owner has managed to reproduce the tigers in captivity; in Vietnam I know only two zoos which have been able to do so - Thu Le and Thao Cam Vien.*

Increasing the number of a wild species in captivity, regardless of the potential for reintroduction into the wild, being considered a conservation success is also demonstrated by the media coverage outlined in Box 8.1 (p. 178). This contrasts with the reasoning of foreign NGOs who emphasised the inability of captive-bred tigers to contribute to conservation of tigers in the wild. The latter is not necessarily an influential argument with regards to the Vietnamese public given many view captive breeding as conservation.

Overwhelming support for the tiger breeder also results from what could simply be considered a pragmatic approach to protecting wild species, arising from the widespread, and relatively accurate, perceptions that wild animals are not currently being effectively protected in the wild; a perceived lack of expertise and facilities within government institutions for breeding tigers, and of trust in the government not to use the tigers for personal benefit. Public support is also likely to have been influenced by the government-led media, which stated the public supported continued private breeding of the tigers; it is unclear whether the media reported genuine public support or whether this statement in the media itself stimulated this support (pers. comm. Ha Thang Long). A widespread belief that captive breeding is the safest solution for rare and endangered tigers also reflects a lack of awareness of the ability for captive-bred individuals to survive in the wild. And despite captive breeding being viewed by many as an end in itself, support for captive breeding does not arise in the absence of a desire to see tigers continue to survive in the wild; appreciation for wild species living in their natural habitat is evident at least amongst older male interviewees:

> Retired male aged 64, university degree:
> *Int: Do you think the government should allow other people to breed rare and precious animals such as tigers?*
> *CN33: [...] The government does not have enough financial resources to breed wild animals in a natural environment. The best way is to free animals to the forests but that's not a good idea due to rampant animal hunting [...] If the government keeps the tigers in places like Soc Son or Hanoi zoo, the conditions there are even worse than in Binh Duong. I think the best solution is to allow those who meet certain requirements to breed animals under state management and monitoring.*
>
> Retired male aged 60, secondary education:
> *Int: Have you read about the tigers in Binh Duong? What do you think?*
> *CN14: I cannot tell whether is right or wrong but I think some officials were very unreasonable. It was as if they wanted to steal the tigers to make bone glue. If they had them, the tigers would*

die sooner or later. At the beginning, if the media had not covered the story, then the officials from ministry of agriculture and rural development would have confiscated the tigers.
Int: Does this mean you support the tiger farmer?
CN14: Of course, I do. I would work for him if I had a chance!
Int: Do you think anything else can be done to conserve the tigers?
CN14: I think we should have stricter regulations to preserve our forests so that the animals can live in their own habitat [...].

Male service worker and wild meat consumer aged 24, primary education:
Int: Do you think we should leave endangered animals like tigers in secure areas like in a zoo or in Binh Duong?
WM09: We should allow the farming in Binh Duong, because people's awareness is still low [...]. But it is not enough to protect wild animals because they are adapted to the wild and cannot be healthy in captivity. Additionally, there should be specific or larger areas where forest rangers take responsibility. In short, wild animals should have their home in the wild.

While naturalistic attitudes - defined as a "primary focus and interest and affection for wildlife and the outdoors" (Kellert 1993: 300) - could not be said to dominate, some interviewees do value wild animals living independently of people in their natural habitat. Again, these tend to be older men who are knowledgeable and passionate about wildlife management, either because they enjoy the outdoors or they "love" animals:

Retired male aged 75, wild meat consumer and recreational hunter, knowledgeable about wild animals and thinks they should be better managed, education unknown:
Int: Do you prefer to see animals in the zoo or in their natural environment?
CN04: It's better to see animals in their natural environment. For example, watching lions hunting for food, when they run after a zebra. Watching the struggle between lions and zebras is really interesting. [...] In their natural environment we can see animals' flexibility and activeness. In captivity, animals can only sit or stand in one place. How can it be compared to living in their natural environment?

Male unskilled worker aged 47, education unknown, passionate about conservation and "loves" animals:
Int: Some people are suggesting that they should farm more wild animals, more different species so that it satisfies demand for wild meat without taking the wild populations, what do you think?
CN01: In my opinion, animals need to have freedom. Wild animals are used to living in their free natural environment. [...] In order to farm them we take their freedom away from them. Their nature, instincts such as hunting for food disappear, their survival instincts also disappear [...] In order to farm them, we take their freedom. Their nature, their instincts disappear. [...] We need to make sure that animals have enough space to live in [...]. It's better to invest in conservation centres [than farms].

Male skilled worker aged 39, secondary education:
Int: Do you think we should keep animals like crocodiles and tigers in a zoo or designated area or leave them in the natural environment?
CN05: [...] If we farm wild animals they will gradually lose their instincts [...] We cannot take tigers to Soc Son because there is no place for them to live. They need their natural habitat, which is the forest. They can only live in primitive forest, in a large area. We need to return them to their natural environment.

In contrast, for many interviewees, and particularly young women, conservation appears to mean 'developing' and 'caring' for wild animals in spacious and well-resourced 'conservation centres' requiring human intervention and control:

> Unemployed female aged 18, secondary education:
> *Int: What do you think wildlife conservation means?*
> *CN07: It means not hunting but breeding, understanding them more [...] it means giving them space to live. [...] We should open a park for everyone to visit; by so doing we can cover some expenses of feeding the animals and at the same time people can learn more about animals.*

> Female undergraduate student aged 19, eats wild meat with her wealthy family[51]:
> *Int: What do you think about the tigers in Binh Duong*?
> *CN09: I think the Prime Minister made a good decision when he allowed the owners to keep the tigers and continue raising them and caring about them. I think they will be living in better, much better conditions than living in the Vietnamese zoo or in a small forest.*

This approach to conservation is also evident at 'ecotourism' centres where wild animals are often presented as being better off in captivity where they can be looked after. For example, one centre that breeds crocodiles documents the decline of crocodiles in the wild in Vietnam for visitors, presenting the switch from wild to captive populations as a desired refinement of nature (pers. comm. Roberton S.).

8.4. Discussion

8.4.1. Wildlife-Related Knowledge and Awareness

Education had the largest impact on wild animal-related knowledge score. Yet qualitative results suggest first-hand experience has a greater influence on knowledge and awareness, and in shaping pro-conservation attitudes, than formal education. Those with higher completed education may have performed better simply because they are more literate, better able to access printed media and more familiar with tests; they are also perhaps more likely to demonstrate 'scientific' wildlife-related knowledge and therefore to perform better on a scale based on western scientific concepts considered useful in forming pro-environmental attitudes by a Western researcher. Those with lesser schooling may possess significant wildlife-related knowledge and awareness, but not of a kind not captured by such a measure; see Section 8.4.4.1 for a discussion of the cross-cultural relevance of measures embedded in western values and concepts. The

[51] Interviewed in English.

higher scores of those with higher education should therefore not be assumed to purely reflect superior wildlife-related knowledge or awareness.

In both quantitative and qualitative results, men demonstrated higher levels of wild animal-related knowledge and awareness than women, mirroring findings by other researchers measuring environmental knowledge in various societies (e.g. Arcury et al. 1987; Chan 1999; Nyhus et al. 2003; Mostafa 2006). More generally, gendered knowledge might result from it being more acceptable for boys and men to take an interest in, and be more knowledgeable about, wild animals and wild animal-related activities (e.g. Kellert & Berry 1987). For example, Nyhus et al. (2003) suggest men demonstrated better wildlife-related knowledge in Sumatra because they are more likely than women to enter the forest to fish, hunt or collect other non timber forest products. Indeed, central Hanoians consider eating and knowing about wild meat a primarily male domain (Chapter 5) and forest rangers in Vietnam are predominantly male (pers. obs.). Nevertheless, institutions such as ENV employ many young women suggesting, today at least, it is acceptable for young women to be interested in environmental sciences and to study these subjects at university. This gender gap in knowledge may therefore close in the future. Experiences of forested areas during wartime, particularly amongst older men, and perhaps also in hunting roles for those born in rural areas, may also explain the positive relationship between knowledge score and age, but this may also simply reflect knowledge accrued over time.

Central Hanoians demonstrate limited ability to identify native species and/or endangered species in Vietnam. A previous study of Hanoi residents (Venkataraman 2007) also found respondents were unclear about which specific species are endangered, but demonstrated good awareness of wildlife-related legislation. Zhang et al. (2008: 1508) also report residents of Southwest Chinese cities being aware of threats to Chinese wildlife and of wildlife-related legislation, but being unclear about which species are protected specifically. This perhaps reflects the tendency for environmental concerns to be geographically specific and focused on personal experiences and observations which has also been documented by other researchers in, for example, Vietnam (Pham & Rambo 2003),

Hong Kong (Chan 1999) and Australia (Connell et al. 1999). First-hand experience of nature has also been shown to be important in forming environmental knowledge amongst Germans (Bogeholz 2006).

It is therefore perhaps unsurprising that those born in urban areas are only able to identify a limited range of native and/or endangered species. Increasingly urban, the world's population is more and more disconnected from nature leading to ignorance amongst urban populations. For example, many urban high school students in the USA were unable to identify local species and inaccurately classed common species as extinct or having never been present in the area (Adams et al. 1987 in Miller 2005). As such, Miller (2005) reasons, opportunities for meaningful interactions with the natural world are needed to engender wider public support for conservation. Rose (2001) also believes that urbanisation has led to a shift away from identifying with nature and towards identifying with human society, resulting in a loss of environmental sensitivity. Interaction with wild animals and participation in outdoor activities, particularly amongst younger generations born in Hanoi, could therefore be important in forming environmental knowledge and pro-environmental attitudes amongst the central Hanoi population, as with other urban groups.

Other researchers have also found that mass media messages are related to environmental knowledge in Vietnam (Huan et al. 1999; Pham & Rambo 2003) and, specifically, that television news positively influences environmental knowledge amongst students in Hong Kong (Chan 1999). Television, mainly foreign shows such as 'Animal Planet', has also previously been identified as a primary source of information about wildlife for Hanoians (Venkataraman 2007) and for Chinese urban residents (Zhang et al. 2008). Television, and wildlife documentaries in particular, have also been shown to be a valuable source of knowledge about threats to species and habitats for Australians (Smith & Broad 2008). The impact of such shows on wild animal-related knowledge amongst central Hanoians could be greatly enhanced by subtitles and/or dubbing in Vietnamese. Though widely accessed, newspaper coverage is largely limited to wildlife crime and wildlife farming and past research has also shown

environmental news in printed media to be poor and limited in scope (Hue 1999). Given that printed media are widely accessed by central Hanoians, these could be more effectively used to raise knowledge and awareness of wildlife conservation.

8.4.2. Wild Animal-Related Knowledge, Awareness and Consumption

Quantitative data suggest wild animal-related knowledge and awareness plays a role in mitigating consumption of wild meat. This is unsurprising since knowledge is widely theorised to influence attitudes and in turn behaviour, and because health-related knowledge and attitude-based interventions have been shown to play an important role in reducing other risky behaviour such as unprotected sex (Coleman 2002). However many such information campaigns have often only had modest and short-term impacts on issues such as teenage pregnancies (Coleman 2002). This is perhaps because knowledge is just one of a range of situational, environmental and psychological factors thought to influence behaviour (Barr et al. 2003). This may also explain why qualitative data show that knowledge and awareness does not consistently reduce consumption behaviour amongst central Hanoians and why awareness raising campaigns so far appear to have had limited and short-term effects on wildlife consumption behaviour in Southeast Asia (TRAFFIC 2008).

One psychological variable that can affect the impact of knowledge on behaviour is social pressure (Barr et al 2003). As already demonstrated in Chapter 6, central Hanoians are under considerable pressure to both serve and eat wild meat when offered; refusing to do so could entail a loss of face and damage relationships. Vietnamese individuals have interdependent self-concepts meaning that they integrate other group members into their identity and that, as such, they are not only representing themselves but also the groups with whom they are associated (Wong & Ahuvia 1998). And although disengaging environmental problems from personal actions is not restricted to hierarchical, collective societies (e.g. Connell et al. 1999), the collective nature of Vietnamese society is likely to compound social pressure to conform and, if necessary, behave in a non-environmental way despite being fully informed of the impacts of such actions.

Additionally, research suggests that members of collective East Asian cultures typically demonstrate an external locus of control, believing that the future is a matter of chance or fate and cannot be influenced by individual actions (see Cherry 2006). In contrast, Westerners believe in an internal locus of control, i.e. their individual ability to change outcomes; many Western-led conservation interventions, including awareness raising campaigns, are based on this principle. Bowman (2001) observes many West Africans also have an external locus of control, and therefore that being asked to participate in conservation may be concurrently unintelligible, impractical and alien to these individuals. Fatalistic outlooks, and also a reliance on technology to solve future problems (pers obs.), may also be responsible for poor conversion of knowledge into action in Vietnam.

The failure of state officials to heed their own environmental propaganda and government corruption contributing to environmental problems is also thought to contribute to a lack of pro-environmental initiatives at an individual level in China (Harris 2006; Wong 2005). In Vietnam also, it is possible that the widespread perception that government officials are the main consumers of wild meat and other rare wild animal products hinders individual actions. For example, Kaplan (2000) identifies a feeling of helplessness as crucial in explaining a general lack of follow through in terms of environmentally responsible human behaviour. Barr et al. (2003) also identify a belief in the effectiveness of individual action as one of a range of psychological variables important in determining the translation of knowledge into action.

The decoupling of consumption behaviour and wildlife decline by central Hanoians may also reflect conscious decisions by consumers to avoid certain forms of information, or to interpret it in such a way that suits their behaviour. This reflects findings of research into the impact of health awareness campaigns. For example, women, including those with heart disease, reduce their own perceived risk of this disease playing down the potential impacts of their own behaviours and adding greater credence to the importance of others, including emphasising the perception in popular culture that it is a 'man's disease' (Ruston & Clayton 2002). Similarly, in Switzerland researchers found respondents created a succession of

psychological barriers rationalising not altering their behaviour to reduce climate change, often emphasising doubts about the significance of individual actions and shifting the responsibility onto others (Stoll-Kleeman et al. 2001). Likewise, central Hanoians are accentuating a popular belief of ethnic minority people being responsible for damaging natural resources while simultaneously dissociating the impacts of their own behaviour from wildlife decline, hence concluding it is ethnic groups rather than consumers that need to change their behaviour. Pham and Rambo (2003) also found that around half their Hanoian interviewees blamed deforestation on ethnic minorities, with only a few acknowledging other drivers of deforestation or the relative poverty of minority groups as playing a role.

Moreover, unlike the prediction of traditional models, individuals do not necessarily make rational decisions based on the information available or behave in such a way that maximizes benefits and minimises costs. For example, awareness of the risks of HIV transmission and pregnancy does not necessarily reduce risky sexual behaviour, possibly because individuals value the promise of immediate pleasure compared to the less desirable hypothetical, potential consequences, or because individuals may feel unable to assert themselves by insisting on condom use (Hovell et al. 1994). Similarly, despite being aware of the threats demand-driven wildlife trade has for wild species in Southeast Asia, consumers of wild animal-derived products may choose the benefits of immediate enjoyment and social advancement over deferred and hypothetical negative consequences, or they may feel unable to refuse to consume. But, unlike HIV, consumption of wild animal products does not have direct impacts on the individual participating in the risky behaviour, and individuals are perhaps therefore even less likely to be deterred from consumption behaviour than from participating in unprotected sex. Also, unlike risks to human health with obvious victims and personal costs, environmental risks are potentially much harder to understand and convey (McDaniels et al. 1996).

Choosing the behaviour most personally and immediately beneficial at the expense of the environment is not unusual. For example, Harris (2006) observes Chinese generally place comfort and convenience before the environment, particularly if it

comes at some personal cost; Canadian respondents were found to judge behaviour in terms of net personal benefit rather the potential for environmental cost (McDaniels et al. 1996); and Stoll-Kleeman et al. (2001) discuss the propensity of their Swiss respondents to consider personal costs incurred more significant than the benefits to others with regards to reducing carbon emissions.

The above perhaps at least partly explains why this, and a previous study of Hanoi residents (Venkataraman 2007) found that, despite most respondents identifying hunting and trade as threatening wild species, relatively few associate wild meat with contributing to extinction risk. Likewise in China, Zhang et al. (2008) found that consumption of wild animal products was not influenced by knowledge of protected species Additionally, it is possible that consumers do not believe - perhaps having not personally observed a decline in wild animals or believe advances in science and technology may prevent it. Moreover, since awareness of native biodiversity is low, and considered by some relatively insignificant and/or replaceable, this suggests central Hanoians may underestimate the true potential for hunting-driven extinctions of Vietnamese species.

Rather than reducing consumption behaviour, many interviewees think increasing education and awareness is a primary tool in improving conservation, or rather that when those who destroy forests and hunt wild animals 'understand' the importance of these natural resources, they will stop this behaviour. Zhang et al. (2008) also report Chinese respondents believing raising public awareness as one of the most important conservation actions needed. These findings perhaps reflect a phenomenon Harris (2008: 68) calls Confucian optimism: rather than shifting attitudes towards valuing wildlife as a good in itself, mantras such as "protecting wildlife is protecting mankind itself" in fact deny any conflict between nature and the needs of developed China. This, argues Harris (2008), reflects the notion underpinned by Confucianism that absolute, hierarchical and prudent leadership leads to harmony, i.e. that provided adequate information and understanding, everyone will reach agreement and conflicts of ideas, values and ambitions will simply fade away.

8.4.3. Attitudes Towards Wild Animals, Their Use and Conservation

8.4.3.1. Evaluation of Methods

During the pilot study respondents were asked to self-complete the attitude scales while during the main data collection period, the attitude scales were read to the respondents by one of three different RAs. How those collecting the data are perceived by those being interviewed can seriously influence the quality of data (Bernard 2002). It is therefore likely that each RA influenced the respondents in different ways, and that both interviewer bias and response bias were exaggerated further by their reading of the items and their recording of responses, as opposed to the respondent completing them independently. Scales may also have suffered from comprising five, as opposed to, for example, Mordi's (1991) ten, items. Nevertheless, increasing item numbers would have made the scales even more time-consuming and repetitive.

Respondent comments and SSI data clearly illustrate how valuable qualitative methods are when investigating something as complex as attitudes, either alongside valid quantitative methods or as the main method of data collection. Exploring the contradictions of interviewees, i.e. between what they say and what they do, further emphasises the difficulties of drawing conclusions from structured attitude surveys alone. With structured attitude surveys there is also a danger that the validity of resulting numerical data is presumed a given and inherent bias ignored in analysis (Hammersley & Gomm 1997). Indeed, numerous published surveys exploring attitudes to wild animals in Africa did not employ reliability analysis at all, suggesting a significant proportion of attitude survey research may be invalid (Browne-Nunez & Jonker 2008).

Bowman (2001: 79) defines cultures as "maps of meaning through which people understand the world and interpret the things around them". Yet although attitudes have been widely studied in Africa and Asia, the potential for cross-cultural transposition of theory, concepts and measures developed in the West, potentially incomprehensible and irrelevant in different settings, has not been extensively examined (Browne-Nunez & Jonker 2008). So despite animal welfare issues and the economic value of biodiversity being at the forefront of campaigns

to promote environmental behaviour in Western society, these approaches will not necessarily have the same effect in other cultures with different worldviews. For example, many African hunters embed their respect and restraint with regards to nature in a fundamental emotional and spiritual empathy with nature, distinct from measured benefits or a moral concern for the welfare of other living things (Bowman 2001). Never having previously considered suffering as an experience shared by animals, most had therefore not even considered the idea that animals might feel pain (Bowman 2001). Likewise, there was no strong indication of the presence of a moralistic attitude towards wildlife amongst central Hanoian interviewees, contrasting with a strong moralistic orientation reported amongst North Americans, but mirroring a lesser moralistic orientation amongst Japanese respondents (Kellert 1991a). There are also variations in value systems within cultures. Rose (2001), for example, notes urbanites around the world view wildlife as a resource to be used to fulfil personal objectives while forest dwelling people tend to consider themselves an element of nature. Forest dwellers, villagers and urbanites are all also therefore likely to respond differently to campaigns to develop support for conservation.

The 'maps' Vietnamese use to read the world are impossible to appreciate fully as an outsider, and in hindsight the relevance of adapting a single set of attitude orientations and scales across Japanese, German and American respondents (e.g. Kellert 1993a) to Hanoian respondents is questionable. Rather than a universal code of values and beliefs typical to all peoples, many argue there are profound differences not only in the traditions of different cultures, but also in their modes of thinking deeply embedded in how the world around them is perceived (Macklin 1999 in Bowman 2001). Applying Western values to non-Western populations is therefore unlikely to succeed, and is perhaps also an inappropriate starting point for research investigating wildlife values.

8.4.4.2. Dominant Attitude Orientations

Widespread consumption of wild animal products (Chapter 4) accompanied by support for the commercial and consumptive use demonstrates a strong utilitarian attitude towards wild animals, corresponding to findings of others in Vietnam

(Pham & Rambo 2003). Pham and Rambo (2003) also observe that, arising from the largely anthropocentric and utilitarian views of Hanoians in which human welfare is viewed as depending on the natural environment, there is a widespread perception of a need to maintain ecological balance. So although on the surface appearing relatively 'ecologistic', the desire for ecological balance is also chiefly borne from concern for human welfare and survival. Donovan (2004) notes that such a philosophical belief in harmony with nature does not necessarily translate into attaining harmony in real life. Nevertheless, the belief that balanced ecosystems are required to support human life, and that wild animal species are integral to ecosystems, could potentially form the basis of pro-conservation attitudes and actions.

In China, dominant value orientations towards wild animals are also often described as utilitarian (Haitao et al. 2007; Zinn & Shen 2007; Harris 2008) and dominionistic (Wong 2005; Harris 2008; Table 3.1). Chinese language, popular stories, scientific writing, government slogans and arguments in defence of the use of bear bile all, argues Harris (2008), exhibit a utilitarian attitude towards wild animals and their conservation. Zhang et al. (2008) report that higher income and more highly educated individuals, who also eat wild meat more often, have the most utilitarian attitudes towards wild animals. Although this contrasts with the typically dominant naturalistic and ecologistic attitudes reported in the West (Kellert 1980; Table 3.1), globally utilitarian attitudes are the norm rather than the exception (Harris 2008). Bowman (2001), for example, reports West Africans generally viewing wild animals as gifts from God for use as required.

Moreover, within every society, a variety of attitudes towards wild animals exist. For example, Rose (2001) notes that those working in business, medicine and economics are more likely to have utilitarian attitudes towards wildlife, while ecologists, theologists and anthropologists are more likely to respect or revere wildlife; biologists, zoologists and psychologists more typically take a middle ground. Utilitarian attitudes towards wild species are also not necessarily incompatible with conservation; they simply reflect an alternative argument for

conserving, i.e. for continued future use, whether directly for medicine, meat or for the ecosystem services they provide, rather than for their own sake.

In addition, despite ecologistic attitudes having been found, using attitude scales, to be stronger amongst north Americans than Japanese respondents (Kellert 1991a) this does not necessarily reflect behaviour. Naturalistic and ecologistic attitudes may be dominant in the USA simply because it is socially undesirable to express alternative values rather than these being a true reflection of attitudes and intentions. For example, although not dominant amongst individuals, a utilitarian orientation towards wildlife ranked highest in a study of American newspaper articles; and interestingly, this coverage was found to be increasingly utilitarian and dominionistic as it was traced back from the present day to 1900 (Kellert & Westervelt 1982 in Harris 2008). Bowman (2001) also notes the paradoxical nature of Western views and actions, observing that while Western protesters shackle themselves to trees to protect biodiversity, Western companies are simultaneously clearing African forests. A utilitarian focus with regards to wildlife is also clearly demonstrated by the increasing need for conservation NGOs to value 'ecosystem services' in order to gain support for wildlife conservation in the West (e.g. FFI 2008). Given such contradictions, imposing Western values on non-Western societies is therefore not only likely to fail in its objectives, but is also rather unjust (Bowman 2001).

Widespread support for captive breeding and human intervention in 'developing' wild species amongst central Hanoians reflects what Harris (2008: 63) has coined a "dominionistic/aesthetic" view towards nature in China. Holders of this attitude view nature as deserving of enhancement through human intervention, i.e. rather than protecting wildlife from unsustainable human exploitation, protecting wildlife from nature itself (Harris 2008). Resulting from this viewpoint, captive breeding is prominent in conservation agendas and all discussion of wildlife, and in fact captive breeding is often considered an end in itself (Harris 2008). Likewise, many central Hanoians appear to view captive breeding, and even wildlife farming for commercial use, as conservation.

The manicured version of nature preferred by those with an aesthetic-dominionistic orientation towards wildlife is at the opposite end of the scale to the 'wilderness' or 'pristine' version upon which much conservation has been based and which is widely used to generate support for conservation in the West (see Gillson & Willis 2004) But although limited to older men, there was evidence of a more naturalistic orientation towards wild animals amongst some central Hanoians, implying that conservation of species in their natural habitats and without direct human management is not incompatible with Vietnamese values and beliefs.

9. Conclusions and Recommendations

9.1. Consumer-Targeted Interventions: Reducing Demand

Conservationists are increasingly targeting consumers in an attempt to reduce demand for wild animal products and, in turn, diminish illegal trade in wildlife. Consumer-targeted interventions typically take the form of awareness raising and social marketing campaigns. To date such campaigns appear to have had little positive impact on wild animal consumption in Southeast Asia, but have been based on a limited empirical research and understanding of the links between knowledge, attitudes and behaviour (TRAFFIC 2008).

Although China is thought to provide the principal market for wild animals traded via Vietnam, this research shows domestic urban markets - for wild meat and bear bile in particular - are also significant drivers of illegal trade in the region. Central Hanoians associate a new fashion for eating expensive wild meat dishes in restaurants with increasing wealth and findings suggest, as disposable incomes continue to grow, demand for wild meat will also rise (Chapters 4, 5 and 6). This justifies a focus on tackling domestic demand for wild animal products in Vietnam in order to protect wild species throughout peninsular Southeast Asia better, and to prevent a further rise in demand in the current context of rapid economic and population growth.

9.1.1. Tackling Domestic Demand For Wild Animal Products

Underlying needs, such as needing to assert status by serving wild meat, can drive initial consumption behaviour, but this can then become habit (Rose 2001). Because we are programmed to accept the familiar and customary banquets depend on consistency, argues Rose (2001), once wild meats are incorporated into diets and rituals in African cities, it will be much harder to reduce this demand. For many central Hanoians eating wild meat seems to have already become habit. Although still widely perceived to be restricted to business contexts and older men, it is now in fact being consumed beyond business and celebratory contexts by wealthy men of all ages in order to appear “fashionable” and to “show off” and is also considered a ‘traditional speciality in many areas visited by urban tourists

(Chapters 4, 5 & 6). Likewise, bear bile is now widely considered a necessary household medicine by all generations of central Hanoians.

Reducing wild meat consumption behaviour emerges as extremely challenging given the difficulties of acting on personal rather than collective interests in Vietnamese society and the highly symbolic roles fulfilled by wild meat in social discourse in an extremely status-conscious society increasingly measuring success by material wealth (Chapter 6). Refusing wild meat as a guest is not easy, leading consumers to emphasise the importance of preventing wild meat reaching restaurants in order to reduce consumption; and though making wild meat less accessible may reduce consumption overall, it may also serve to make it even more desirable and further compound its association with the elite. Likewise, serving less prestigious foods is equally problematic due to the pressures felt by status-conscious Hanoians to assert wealth and status by maintaining a certain standard of consumption. Important food exchanges should not only impress your guests but also leave them indebted; for example the food served at meals aiming to gain political and/or economic advantage needs to be sufficiently prestigious to warrant reciprocation in equal measure.

Stemming demand for wild meat in this context requires either major shifts regarding the importance of status - or at least the roles of consumption in demonstrating status - in Hanoian society or, more plausibly, a reduction in the symbolic values of wild meat undermining its role as a medium for communicating prestige. Given historical associations of access to wild animals with elite groups, the latter would not be easy. Donovan (2004) suggests social marketing campaigns advocating strict protection of wildlife and prohibiting consumption might appeal to consumers mindful of their standing in society. Due to the hierarchical nature of Vietnamese society and the prevalence of interdependent self concepts making individuals predisposed to conform (Markus & Kitayama 1991), changing social norms may therefore need to start with high-status members of society; it may, for example, be unrealistic to expect a junior member of staff to stand up to a more senior member (cf. ENV 2008). Wild animal products being rejected by the highest levels of society would also challenge the association of wild animals with elite

groups, in turn potentially reducing aspirations to consume them amongst the wider population. Nonetheless, Hanoians are reported to be becoming increasingly individualistic (Davis & Sensenbrenner 2000; Nguyen 2004), suggesting opportunities for pro-conservation actions may increasingly arise at an individual level.

To tackle business-driven wild animal consumption in China, helping businesses build a responsible image by signing a pledge to not consume wild animals has been suggested (Tong 2007). In this way, advises Tong (2007: 22), businesses can reduce the humiliation of not offering wild animal goods by asserting it is socially and environmentally responsible company policy. In Vietnam, such actions would likely need to come within wider internal social change to avoid businesses risking being seen as putting foreign concerns first. For example, many wild animal products are considered 'traditional' and Vietnamese, especially when it is felt such practices are being attacked by foreign sources (Chapter 6). Nguyen (2004) also notes, although young urban Vietnamese are becoming more individualistic in their goals in terms of personal education and achievement, this is often embedded within a patriotic drive to assist in the development of the economy for the benefit of the country.

Having said that, because economic development is the principal concern of many Vietnamese, powerful foreign corporations investing in Vietnam - and with whom many international conservation NGOs increasingly work in partnership - have significant potential in terms of influencing both policy and behaviour at the highest levels. And despite a significant proportion of wild meat events occurring outside the business context, businessmen and finance professionals are primary consumers, and reducing business consumption may subsequently positively impact consumption behaviour of the same individuals in their own time. Businesses would also therefore be an advisable focus of efforts to stem demand for wild animals in Vietnam.

Altering consumer demand for wild animal-derived medicines - especially commonly used medicines such as bear bile, widely considered effective and

"needed" - is also enormously challenging (Chapter 4; Chapter 6). As well as treating a wide variety of specific problems, tonics such as bear bile in rice wine are valued for their generally restorative and strength-giving properties as well as being symbols of respect and identity for many men (Craig 2002). Any substitutes would therefore need to fulfill all these roles. Moreover, although eating expensive wild meat is widely considered a new fashion, wild animal-derived medicines are based in ancient tradition, most often passed down through generations. Attacking the scientific validity of these traditional beliefs is therefore likely to be unpopular and ineffective. Traditional medicine is a subtle art and there are occasions when only traditional remedies are considered appropriate; in order to manage demand for different wild animal-derived medicinal products, research focusing specifically on alternative wild animal-derived medicines and the barriers and opportunities regarding their substitution of non wildlife-derived alternatives is also needed.

Some young men judged the effectiveness of wild animal medicines by comparing the health or performance of those in foreign countries who do not use traditional medicine with countries that do; finding no differences, they concluded such medicines are unnecessary. Campaigns aiming to prevent young men becoming future consumers therefore might be advised to build on this concept. Such a campaign could perhaps even, as suggested by one such interviewee, be based on the performance of the Chinese football team compared to many Vietnamese young men's Premiership heroes. Of course, this idea may be outdated following China's Olympic success, unless the winning athletes can be shown to avoid wild animal-derived medicines and tonics.

A widely utilitarian attitude towards wild animals (Chapter 8) means campaigns highlighting animal welfare are unlikely to be effective. These may even have detrimental impacts as a result of highlighting the ill health of captive animals and in turn the poor quality medicines they produce (Chapter 7). Likewise, campaigns aiming to reduce consumption of wild animal medicinal products by emphasising fake or poor quality products must be wary of simply shifting demand towards genuinely wild products, with obvious repercussions for wild populations in the absence of adequate monitoring and law enforcement.

9.1.1.1. The Role of Wildlife-Related Knowledge and Awareness

There is some evidence to suggest that wild animal-related knowledge and awareness is associated with a lower level of wild meat consumption, but no evidence to suggest wildlife-related awareness plays a role in mitigating consumption of medicinal wild animal-derived products. Nevertheless, many central Hanoians continue to consume wild animal products despite, and possibly even because of, awareness of human-driven wildlife decline (Chapter 8). This questions the utility, or at least the centrality, of interventions designed to raise wildlife-related knowledge and awareness in terms of reducing demand for wild animal products amongst central Hanoians. This section will first address the gaps in knowledge and awareness identified by the research, and the potential for enhancing knowledge and awareness with the aim of reducing consumption behaviour. It will then discuss the potential barriers between wildlife-related knowledge and awareness and a reduction in consumption behaviour, and how these might be overcome.

9.1.1.1.1 Enhancing Wildlife-Related Knowledge and Awareness

Although most central Hanoians are aware that wildlife is generally declining in Vietnam and hunting and trading endangered species is illegal, few are able to identify specific species classed as endangered and/or protected by law (Chapter 8). Guo (2007) stresses the need for clear and constructive positive messages, suggesting campaigns should concentrate on the most vulnerable and heavily consumed species: targeting one species at a time avoids overwhelming the public with a long list of species potentially leading to confusion, feelings of helplessness and fatigue. Other researchers (e.g. Rose 2001; Miller 2005) suggest urban residents become disconnected from nature, resulting in ignorance of the relationships between humans and nature and leading to indifference. Firsthand experience of environmental issues plays an important role in educating central Hanoians particularly those born in the city, about wildlife-related issues and forming positive attitudes towards conservation (Chapter 8). Social marketing interventions could therefore also perhaps place greater emphasis on participatory activities involving a greater level of interaction with nature. For example, providing opportunities for young urbanites to partake in field courses.

Some central Hanoians believe that wild species in Vietnam are found elsewhere and therefore that these species can easily be replaced if exhausted (Chapter 8). As such, establishing an understanding of the ecological relationships that have evolved between species and their habitats and highlighting the global significance of Vietnamese fauna may foster greater support for domestic conservation. In particular, the nationalistic dimension, the endemic and hence irreplaceable nature of native species and ecosystems could be emphasised. Building on the belief in the need for ecological harmony to support human life and wild animal species being an integral part of balanced ecosystems, the impact of wild animal consumption could also be highlighted to encourage a stronger association between urban consumption behaviour and wildlife decline. Finally, though evident amongst older men, the value of conserving species in the wild needs to be accentuated if conservation in the wild, as opposed to in captivity, is to receive wider public support.

Foreign television programmes about wildlife are widely accessed and enjoyed but their educational value is limited by their focus on non-native wildlife and being broadcast in a foreign language (Chapter 8). Expertly designed, high-quality programmes about native wildlife in their 'natural' habitats and presented by a respected Vietnamese broadcaster could therefore prove an extremely effective tool in influencing attitudes towards wild animals and their conservation. Smith and Broad (2008) suggest that televised wildlife documentaries are important sources of information about wildlife but that zoos provide important complementary information augmenting the other's message. Given its popularity and accessibility, Hanoi's zoo - despite requiring a substantial shift in its current approach to wild animals - has significant untapped potential for raising awareness and cultivating pro-conservation attitudes amongst the central Hanoi population.

Highlighting rarity or advertising conservation status can encourage demand for these species (Hall et al. 2008). Indeed, rarity is the primary driver of much wild meat consumption, as opposed to medicinal value or any physical properties of the food (Chapter 6). But reducing demand for wild meat and wild animal-derived

medicinal products requires a wider shift in social norms regarding wild animals and their consumption: if society at large considers consumption of endangered wild species as irresponsible behaviour then this is more likely to create social stigma around their consumption than any amount of castigation, particularly from foreign sources. In fact, as already noted, foreign criticism of 'traditional' culture may be viewed as a general attack on Vietnamese values and result in antagonistic responses. And ultimately, engendering national pride in native wildlife requires enhancing awareness of the significance of Vietnamese biodiversity. Nevertheless, it is advised that the amount and type of information made available to the public is carefully regulated; highlighting the importance of a species in a certain ecosystem does not, for example, necessarily require the location of that particular species to be identified (Hall et al. 2008).

It is also likely that demand for wild meat would be stemmed if consumers were more aware of wild animal-borne diseases, the heightened probability of disease transmission produced by the conditions of illegal trade, and the practice of using post-harvest chemicals to preserve catches. The translator who worked on the SSIs with wild meat consumers was prone to lecturing young consumers following the interview: it is worth noting that he always used disease and the use of chemical preservatives as his main argument in persuading them to resist in future, rarely if ever, building his arguments around legality or species endangerment. Likewise, campaigns aiming to reduce demand for wild meat might do well to focus on the detrimental health impacts potentially arising from consuming wild animals; highlighting that, by its very nature, illegal wildlife trade allows for a complete absence of regulation. Because this might increase existing consumers' concern with the origin of the animals they consume and increase demand for live wild animals, this would need to be accompanied by strong monitoring and enforcement to prevent such demands being met.

9.1.1.1.2. Linking Wildlife-Related Knowledge and Consumption

Although knowledge and awareness certainly play a role in forming environmental attitudes and behaviour, they are just two dimensions amongst a range of situational factors including experience and access to services; psychological

variables such as social pressure and personality traits, and logistical variables such as a belief in the effectiveness of individual actions believed to influence behaviour (Barr et al 2003). A top-down approach to environmental policy may be inhibiting the transformation of knowledge and awareness into responsibility and action at an individual level. This is perhaps further compounded by the hierarchical nature of Vietnamese society within which pursuing individual desires over those of the group may be socially disadvantageous, i.e. social pressure to conform (Chapter 6, 8). Following a century of uncertainty and shortage Vietnamese could be forgiven for living for the moment and placing immediate desires before hypothetical, future consequences. But this may also simply be human nature. For example, raising awareness of the risks of unsafe sex has not significantly reduced the spread of HIV, a hypothetical risk which promises immediate pleasure but which, unlike wild animal consumption, potentially impacts the participants directly.

9.1.1.2. Understanding Attitudes and Behaviour

All campaigns need to be based on detailed information about consumer groups, the context of consumption and consumer motivations and designed by those with extensive social marketing and psychology expertise. For example, to design tools to reduce wild meat trade in Africa, Rose (2001: 72), recommends bringing marketing experts together with social scientists and representatives from urban centres, villages and remote settlements, and considering their various preferences, beliefs and ambitions. And instead of pursing a global environmental ethic based on Western beliefs, it might be easier to explore the meaning the societies in question apply to conservation, and to define and embed conservation interventions in the needs and beliefs of that society (Bowman 2001). In other words, conservation research and actions should not begin with a Western framework of values, but should start by attempting to understand better the fundamental differences with which different cultures, and various groups within them, perceive and interpret the natural world and its conservation.

Conservation researchers also need to combine quantitative and qualitative methods in their drives to understand local human behaviour more effectively.

Structured attitude surveys can potentially yield large-scale quantitative results enabling rigorous statistical analysis, and which are a form of data generally more familiar and widely accepted by the conservation community. But any statistical analysis is only as good as the data they involve, and a recent review of published structured attitude surveys concerning wildlife conservation in Africa found the validity of the results of many of the studies questionable (Browne-Nunez & Jonker 2008). While all methods have their advantages and disadvantages, I strongly advise those researching attitudes to include qualitative methods within their research methodology.

9.1.1.3. Targeting Consumer Groups

In tackling demand for wild animal products in China, Guo (2007) has already emphasised the importance of directly targeting consumer groups. Campaigns designed to reduce consumer demand for wild meat amongst central Hanoians should target successful, high income and high status male audiences of all ages and education levels (Chapters 5 and 6). Wild meat is largely eaten in an informal and recreational context amongst family and friends; although businesspeople and professionals report eating wild meat with colleagues this is also often in an informal rather than business context (Chapter 1). Social marketing campaigns should therefore focus on tackling widespread recreational wild meat consumption as well as the more formal business contexts in which wild meat is, to a lesser extent, also consumed.

Consumers of wild animal-derived medicinal products tend to be older. Illness generally increases with age and such medicines are often used specifically to treat degenerative ailments associated with older people and/or are consumed to restore strength. Therefore as people live longer, and disease profiles and medical needs shift, demand for wild animal-derived medicines is likely to grow alongside an increasingly elderly Hanoian population. Consumers of wild animal-derived medicines also tend to be relatively highly educated. Choice of healthcare has recently been greatly enhanced in Vietnam (Craig 2002) and it is possible that educated Hanoians may be leading a revival of traditional wild animal-derived medicines as has been observed in Hong Kong (Chiu et al. 2005; Chung et al. 2007).

Further research is needed to understand better the role of education in the consumption of wild animal-derived medicinal products in central Hanoi.

9.2. Supply-Side Approaches: Farming Substitutes

Farming wild animals to produce substitutes has been proposed to reduce pressure on wild populations by satisfying consumer demand for wild animal products. This research aimed to investigate the ability of farmed wild substitutes to satisfy demand amongst central Hanoians, and ultimately to assess the potential of wildlife farming as a conservation tool in Vietnam.

9.2.1 Satisfying Consumer Demand

Rare wild animal products are a medium through which Hanoians conspicuously advertise wealth, assert status and demonstrate specialist knowledge and connections. Access to these products is used to exclude and reify differences in social status, to demonstrate competence, build useful personal networks and to gain economic and social advantage from those with power (Chapter 6). Reducing demand for wild animal products with high symbolic value therefore requires substitutes that are sufficiently prestigious. It is unlikely that products derived from farmed wild animals will satisfy these criteria. Wild products are widely believed superior to farmed alternatives (Chapter 7). As such, farmed wild meat is not viewed as a direct substitute but an inferior, additional product serving a new, larger and growing market, while demand for wild-caught products will persist. In fact widespread farming is likely to encourage existing consumers to place greater emphasis on wildness in order to communicate prestige. For example, preferences for wild *Pelodiscus sinensis* have already been reported in China (Shi & Parham 2000) and Vietnam (pers. comm. McCormack, T.) where this species is now widely farmed.

Due to embedded preferences for wild products, and because many wild animal derived medicines documented in original *Materia Medica* would have been derived from wild-caught animals, consumers newly able to access wild animal products in the form of cheaper, farmed substitutes may also later amplify overall demand for wild products where no demand existed previously, the availability of

farmed products having led to such products being seen as essential (Chapter 7). For example, now widely considered a 'necessary' medicine, changes in consumer confidence regarding the quality of farmed bear bile appear to be encouraging consumers to seek genuinely wild bile, rather than to shift to more sustainable or better quality alternatives (Chapter 7). Therefore, not only is wildlife farming unlikely to satisfy existing demand for wild animal products, it may also serve to create new, additional markets. It would be interesting to know what was used for ailments commonly treated with bear bile today, prior to the advent of the extraction process in the 1970s (Li 2004).

9.2.2. Wildlife Farming: a Conservation Tool?

Illegal trade in Southeast Asian wildlife is large, lucrative, highly organised and complex (Nooren & Claridge 2000; Broad et al. 2003; Roberton et al. 2004). Traders are able to respond rapidly to changes in supply or access by targeting new source areas, innovating transport methods and routes, exploiting weaknesses in enforcement and targeting new species within the same commodity group, and links with organised crime and drug trafficking are testament to the profits that can be made (SFNC 2003; Roberton et al. 2004). In this context, legal trade in farmed wild products is also likely to make illegal trade easier. Where enforcement is poor, capturing a wild animal is simply less expensive than raising one, meaning that strong incentives remain for poaching (Gratwicke et al. 2008). Trade in wild tiger goods disguised as products from captive-bred tigers is, for example, considered widespread (IFAW 2006), while Roberton (2004: 7) reports wild meat restaurateurs in Vietnam supporting wildlife farming because it may aid laundering animals from the wild.

The challenge of reducing demand for wild animal products will become only greater if their consumption is endorsed by legalisation of farming for human use. Sanctioning wildlife farming for commercial use will instead appear to be encouraging and condoning wild animal consumption. Allowing legal trade in farmed wild products will also give the impression that these species are no longer endangered or protected by law, potentially encouraging previously conscientious individuals to enter the market and increasing overall demand for them and

potentially inflating prices (Clayton et al. 2000). For example, Stiles (2004), shows how legalisation of trade in elephant ivory reduced social stigma attached to purchasing and owning ivory products, and subsequently increased demand for it. In contrast, the ban of tiger-based products in China in 1993 is believed to have reduced demand for tiger parts (Nowell 2006) and to have led directly to the removal of tiger-derived medicines from TCM pharmacopoeias (Meng & Zhai 2000; IFAW 2006 in Gratwicke et al., 2008). Upholding wildlife-related legislation and strongly discouraging consumption of endangered species will send clear signals to the wider public that exploiting legally protected species is unacceptable.

While any potential solution that might protect endangered wild species is worth exploring in full, the evidence to date (see Chapter 1) and the findings presented here strongly suggest wildlife farming is not the silver bullet its proponents hope with regards to stemming illegal trade in Southeast Asian wildlife. As Harris (2008) concludes, the survival of wild animal populations depends chiefly on the area and quality of their habitats and the rate of human exploitation, meaning if conserving animals in the wild is the aim, then efforts must concentrate on the wild.

9.3. Regulatory Approach: Prohibiting Harvest, Trade and Consumption

Regulation has been the dominant approach to managing exploitation of wildlife but its success in managing over-exploitation of wild species is widely debated (see Chapter 1). Current arguments in support of farming endangered species are often solely based on the perceived failure of regulatory approaches (e.g. Lapointe 2007). However, it is not regulatory approaches that have failed per se but rather their implementation. So, while complementary approaches to managing illegal wildlife trade in Southeast Asia should be explored, and despite the huge challenges presented by highly organised illegal traders seeking highly valuable prey, regulatory approaches should not necessarily be dismissed.

Zhang et al. (2008) report that half their respondents in China think wildlife should be protected. Yet, as Harris (2008) also observes, China is the main market for wild animals. Support for conservation should therefore not be confused with a shift away from utilitarian attitudes towards consumption on an ethical basis

(Harris 2008). Income has repeatedly been found to be positively correlated with wild meat consumption in Vietnam (Chapter 5; Anon., 2006) and in China (Guo 2007), suggesting that here the main factor currently preventing wild animal consumption is not awareness or attitude, but money (Harris 2008). So while awareness-raising and social marketing tools are important for long-term conservation plans, altering awareness and attitudes alone is not guaranteed to reduce consumption behaviour and is almost certainly not going to offer rapid solutions to conserving already vulnerable wild species. This suggests that regulatory approaches to protecting endangered species in Vietnam need to be strengthened in order to conserve endangered species involved in illegal trade in peninsular Southeast Asia. Likewise in Africa, Rose (2001) argues, while media messages can contribute to creating a climate for social change, they need to be accompanied by physical actions at important points along the wild meat commodity chain, including restaurants and markets.

Without demand for wild animals there would be little incentive to hunt and trade. It therefore seems unfair to penalise those responsible for harvesting endangered wildlife - typically the poorest members of the population - whilst not disciplining those responsible for selling and consuming products derived from endangered species. Placing greater emphasis on penalising those who sell products derived from protected species, and also on those who consume these products, might therefore deserve greater consideration. Monitoring and enforcement aimed at reducing wild meat availability would be wise to focus on urban centres, tourist destinations and major roads serving Hanoi. Since many perceive government representatives as frequent consumers of wild animal products, public actions targeting illegal wild animal consumption amongst these groups in particular would clearly demonstrate to the wider public that consumption of protected species will not be condoned.

Sincere action regarding the regulation and enforcement of the illegal trade in wild species would also likely inspire greater confidence in conservation actions, and may in turn encourage individual responsibility and action. The role of legislation in shaping attitudes should also not be underestimated. In addition to the reported

impact of a ban on tiger products in China noted above, Morris (1987: 225) identifies the introduction of the Wildlife and Countryside Act 1981 in Britain a critical mechanism in the creation of a positive attitudes towards wildlife.

References

Abramson, P.R. and R. Inglehart 1995. Value Change in Global Perspective. University of Michigan Press, Ann Arbor, USA.

Adams, C.E., J.K. Thomas, P. Lin and B. Weiser 1987. Urban High School Student's Knowledge of Wildlife. In: Integrating Man and Nature in the Metropolitan Environment: Proceedings of a National Symposium on Urban Wildlife (eds. L.W. Adams and D.L. Leedy). National Institute for Urban Wildlife, Colombia, USA.

Ajzen, I. and M. Fischbein 1980. Understanding Attitudes and Predicting Social Behaviour. Prentice-Hall, Engle-Wood Cliffs, New Jersey, USA.

Ajzen, I. and M. Fischbein 2000. Attitudes and Attitude-Behaviour Relation: Reasoned and Automatic Processes. In: European Review of Social Psychology (eds. W. Stroebe and M. Hewstone). John Wiley & Sons

Alaszewski, A. 2005. Risk Communication: Identifying the Importance of Social Context. Health, Risk and Society 7: 101-105.

Anderson, E.N. 1988. The Food of China. Yale University Press, New Haven, USA.

Anderson, E.N. 1997. Traditional Medicinal Values of Food. In: Food and Culture: A Reader (eds. C. Counihan and P. van Esterik), pp. 80-92. Routledge, London, UK and New York, USA.

Anderson, E.N., M.C. Anderson and K.C. Chang 1977. Modern China: South. In: Food in Chinese Culture), pp. 318-382. Yale University Press, New Haven and London.

Anderson, E.N. and M.L. Anderson 1975. Folk Dietetics in Two Chinese Communities and Its Implications for the Study of Chinese Medicine. In: Medicine in Chinese Cultures: Comparative Studies of Healthcare in Chinese and Other Societies (eds. A. Kleinman, P. Kunstadter, R. Alexander and J.L. Gale). Fogarty International Center, Washington D.C, USA.

Andreasen, A.R. 2001. Ethics in Social Marketing. Georgetown University Press, Georgetown, USA.

Anon. 2004. The Trade in Marine Turtle Products in Viet Nam. Secondary The Trade in Marine Turtle Products in Viet Nam, TRAFFIC Southeast Asia, Vietnam.

Anon. (2001). Assessing the Impacts of Commercial Captive Breeding and Artificial Propagation on Wild Species Conservation. Commercial captive propagation and wild species conservation, Jacksonville, Florida, USA. IUCN SSC Conservation Breeding Specialist Group.

Anon. (2004). Wildaid Newsletter: Winter 2004. Retrieved 16th May from http://www.wildaid.org/index.asp?CID=8&PID=66&SUBID=&TERID=75.

Anon. (2006). Combating Illegal Wildlife Consumption in Vietnam. Retrieved 8th May 2006 from http://www.panda.org/about_wwf/where_we_work/ecoregions/index.cfm?uNewsID=66900.

Antla, R., R.R. Regoes, J.C. Koella and C.T. Bergstrom. 2003. The Role of Evolution in the Emergence of Infectious Diseases. Nature 426: 658-661.

Apaza, L., D. Wilkie, E. Byron, T. Huanca, W. Leonard, E. Perez, V. Reyes-Garcia, V. Vadez and R. Godoy. 2002. Meat Prices Influence the Consumption of Wildlife by the Tsimane' Amerindians of Bolivia. Oryx 36: 382-388.

Appadurai, A. 1981. Gastro-Politics in Hindu South Asia. American Ethnologist 8: 494-511.

Appadurai, A. and A. Appadurai 1986. Introduction: Commodities and the Politics of Value. In: The Social Life of Things: Commodities in Cultural Perspective), pp. 1-27. Cambridge University Press, Cambridge, UK.

Arbuthnot, J. 1977. The Roles of Attitudinal and Personality Variables in the Prediction of Environmental Behaviour and Knowledge. Environment and behaviour 9: 217-233.

Arcury, T.A. and E.H. Christianson. 1993. Rural-Urban Differences in Environmental Knowledge and Action Journal of Environmental Education 25: 19-25.

Arcury, T.A., S.J. Scollay and T.P. Johnson. 1987. Public Environmental Knowledge: A Statewide Survey. Journal of Environmental Education 18: 31-37.

Ashwill, M.A. and T.N. Diep 2005. Vietnam Today: A Guide to a Nation at a Crossroads. Intercultural Press, a Nicholas Brealey Publishing Company, Yarmouth, USA.

Asian Development Bank. (2005). Key Indicators. Retrieved 20th November 2008 from http://www.adb.org/statistics.

Bagwell, L.S. and B.D. Bernheim. 1996. Veblen Effects in a Theory of Conspicuous Consumption. American Economic Review 86: 349-373.

Baird, I.G. 1993. Wildlife Trade between the Southern Lao PDR Provinces of Champassak, Sekong and Attapeu, and Thailand, Cambodia and Vietnam. Secondary Wildlife Trade between the Southern Lao PDR Provinces of Champassak, Sekong and Attapeu, and Thailand, Cambodia and Vietnam, TRAFFIC Southeast Asia, Kuala Lumpur, Malaysia.

Bakarr, M.I., O. Ampadu-Agyei, E. Adomako, R. Ham, S. Mainka and M. Trivedi 2002. Bushmeat Utilisation, Human Livelihoods and Conservation of Large Mammals in West Africa. In: Links between Biodiversity, Conservation, Livelihoods and Food Security: The Sustainable Use of Wild Species for Meat). Centre for Applied Biodiversity Science & Conservation International, Washington D.C., USA.

Bandara, R. and C. Tisdell. 2003. Comparison of Rural and Urban Attitudes to the Conservation of Asian Elephants in Sri Lanka: Empirical Evidence. Biological Conservation 110: 327-342.

Barbier, E.B. and T.M. Swanson. 1990. Ivory: The Case against the Ban. New Scientist 1743: 52-54.

Barnett, R. 2000. Chapter One: Regional Overview on Wild Meat Utilisation. In: Food for Thought: The Utilisation of Wild Meat in Eastern and Southern Africa). TRAFFIC

Barnett, R., S. Mainka and M. Trivedi 2002. Wildmeat Utilisation in the Eastern and Southern Africa Region. In: Links between Biodiversity, Conservation, Livelihoods and Food Security: The Sustainable Use of Wild Species for Meat 24). IUCN Species Survival Commission

Barr, S., N.J. Ford and A.W. Gilg. 2003. Attitudes Towards Recycling Household Waste in Exeter, Devon: Quantitative and Qualitative Approaches. Local Environment 8: 407-421.

Belk, R.W. 1988. Possessions and the Extended Self. The Journal of Consumer Research 15: 139-168.

Bell, D., S. Roberton and P.R. Hunter. 2004. Animal Origins of the Sars Coronavirus: Possible Links with the International Trade in Small Carnivores. Phil. Trans. R. Soc. Lond. B 359: 1107-1114.

Benedict, C. 1996. Bubonic Plague in Nineteenth-Century China. Stanford University Press.

Bennett, E. 2002. Is There a Link between Wild Meat and Food Security? Conservation Biology 16: 590-592.

Bennett, E.L., J.S.J. Nyaoi, J.G. Robinson and E.L. Bennett 2000. Saving Borneo's Bacon. In: Hunting for Sustainability in Tropical Forests). Colombia University Press, New York, USA.

Bennett, E.L. and M. Rao. 2002. Hunting and Wildlife Trade in Tropical and Sub-Tropical Asia: Identifying Gaps and Developing Strategies. Report of a Meeting Held in Khao Yai National Park Thailand. Secondary Hunting and Wildlife Trade in Tropical and Sub-Tropical Asia: Identifying Gaps and Developing Strategies. Report of a Meeting Held in Khao Yai National Park Thailand., Wildlife Conservation Society, Bangkok, Thailand.

Bennett, E.L., M. Rao, S. Mainka and M. Trivedi 2002. Wild Meat Consumption in Asian Tropical Forest Countries: Is This a Glimpse of the Future for Africa? In: Links between Biodiversity, Conservation, Livelihoods and Food Security (eds. S. Mainka and M. Trivedi), pp. 39-44. IUCN, Gland, Switzerland.

Bernard, H.R. 1995. Research Methods in Anthropology. Altamira Press, Lanham and Oxford.

Bogeholz, S. 2006. Nature Experience and Its Importance for Environmental Knowledge, Values and Action: Recent German Empirical Contributions. Environmental Education Research 12: 65-84.

Bonacic, C. and J. Gimpel 2003. Sustainable Use of the Vicuna: A Critical Analysis of the Macs Project. Kluwer Academic Publishers, Boston, USA.

Bord, R.J., R.E. O'Conner and A. Fisher. 2000. In What Sense Does the Public Need to Understand Global Climate Change? Public Understanding of Science 9: 205-218.

Bosompra, K. 2001. Determinants of Condom Use Intentions of University Students in Ghana: An Application of the Theory of Reasoned Action. Social Science and Medicine 52: 1057-1069.

Boudarel, G. 2002a. 1954: A Troubled Independence. In: Hanoi: City of the Rising Dragon (eds. G. Boudarel and V.K. Nguyen), pp. 115-132. Littlefield Publishers Inc., Lanham, USA.

Boudarel, G. 2002b. A Capital for All Vietnamese. In: Hanoi: City of the Rising Dragon (eds. G. Boudarel and V.K. Nguyen), pp. 167-174. Littlefield Publishers Inc., Lanham, USA.

Boudarel, G. and V.K. Nguyen 2002. Prologue. In: Hanoi: City of the Rising Dragon (eds. G. Boudarel and V.K. Nguyen), pp. 1-10. Littlefield Publishers Inc., Lanham, USA.

Bourdieu, P. 1984. Distinction: A Social Critique of the Judgement of Taste. Routledge, London, UK.

Bowen-Jones, E., D. Brown and E. Robinson. 2002. Assessment of the Solution-Oriented Research Needed to Promote a More Sustainable Bushmeat Trade in Central and West Africa. Research Report for Defra. Secondary Assessment of the Solution-Oriented Research Needed to Promote a More Sustainable Bushmeat Trade in Central and West Africa. Research Report for Defra, Bristol.

Bowen-Jones, E., D. Brown and E.J.Z. Robinson. 2003. Economic Commodity or Environmental Crisis? An Interdisciplinary Approach to Analysing the Bushmeat Trade in Central and West Africa. Area 35: 390-402.

Bowman, K. 2001. Culture, Ethics, and Conservation in Addressing the Bushmeat Crisis in West Africa. In: Hunting and Bushmeat Utilization in the African Rain Forest: Perspectives toward a Blueprint for Conservation Action (eds. M.I. Bakarr, O. Ampadu-Agyei, E. Adomakoet al). Conservation International, Washington D. C., USA.

Brashares, J.S., P. Arcese, M.K. Sam, P.B. Coppolillo, A.R. Sinclair and A. Balmford. 2004. Bushmeat Hunting, Wildlife Declines, and Fish Supply in West Africa. Science 306: 1180-1183.

Broad, S., T. Mulliken, D. Roe and S. Oldfield 2003. The Nature and Extent of Legal and Illegal Trade in Wildlife. In: The Trade in Wildlife: Regulation for Conservation (eds. S. Oldfield), pp. 3-22. Earthscan, London.

Browne-Nunez, C. and S.A. Jonker. 2008. Attitudes Towards Wildlife and Conservation across Africa: A Review of Survey Research. Human Dimensions of Wildlife 13: 47-70.

Bulte, D. and R. Damania. 2005. An Economic Assessment of Wildlife Farming and Conservation. Conservation Biology 19: 1222-1233.

Burton, D. 2000. Data Collection Issues in Survey Research. In: Research Training for Social Scientists (eds. D. Burton). Sage Publications.

Burton, J.A. 2006. The International Wild Bird Trade: A Response to Cooney and Jepson. Oryx 40: 261-262.

Caspary, H.U. 2001. Regional Dynamics of Hunting and Bushmeat Utilization in West Africa - an Overview. In: Hunting and Bushmeat Utilization in the African Rain Forest (eds. M.I. Bakarr, G.A.B. da Fonseca, C.G. Mittermeier, A.B. Rylands and K.M. Painemilla), pp. 11-16. Conservation International, Washington D.C., USA.

Cassidy, C.M. 1998. Chinese Medicine Users in the United States Part I: Utilization, Satisfaction, Medical Plurality. Journal of Alternative and Complementary Medicine 4: 17-17.

Chan, K.K.W. 1999. Mass Media and Environmental Knowledge of Secondary School Students in Hong Kong. The Environmentalist 19: 85-97.

Chan, M.F., E. Mok, Y.S. Wong, T.F. Tong, M.C. Day, C.K.Y. Tang and W.D.H. C. 2003. Attitudes of Hong Kong Chinese to Traditional Chinese Medicine and Western Medicine: Survey and Cluster Analysis. Contemporary therapies in Medicine 11: 103-109.

Chan, R.Y.K. 2001. Determinants of Chinese Consumers' Green Purchase Behaviour. Psychology and Marketing 18: 389-413.

Chang, K.C. 1977. Food in Chinese Culture: Anthropological and Historical Perspectives. Secondary Food in Chinese Culture: Anthropological and Historical Perspectives, Yale University Press, New Haven.

Chape, S. 2002. Lao People's Democratic Republic. In: Biodiversity Planning in Asia (eds. J. Carew-Reid). IUCN The World Conservation Union, Gland, Switzerland and Cambridge, UK.

Chapman, D. and K. Sharma. 2001. Environmental Attitudes and Behaviour of Primary and Secondary Students in Asian Cities: An Overview Strategy for Implementing an Eco-Schools Programme. The Environmentalist 21: 265-272.

Chardonnet, P., B. des Clers, J. Fischer, R. Gerhold, F. Jori and F. Lamarque. 2002. The Value of Wildlife. Rev. Sci. Tech. Off. int. Epiz. 21: 15-51.

Cherry, J. 2006. The Impact of Normative Influence and Locus of Control on Ethical Judgements and Intentions: A Cross-Cultural Comparison. Journal of Business Ethics 68: 113-132.

Chestin, I. (1998). Wildlife Trade in Russian and Central Asia: Executive Summary. Retrieved 15th November 2008 from http://www.traffic.org/general-topics/.

Chiu, S.W.K., L.S.F. Ko and P.L. Lee. 2005. Decolonization and the Movement for Institutionalization of Chinese Medicine in Hong Kong: A Political Process Perspective. Social Science and Medicine 61: 1045-1058.

Chung, V., E. Wong, J. Woo, S.V. Lo and S. Griffiths. 2007. Use of Traditional Chinese Medicine in the Hong Kong Special Administration Region of China. Journal of Alternative and Complementary Therapy 13: 361-7.

Cicourel, A. 2004. Fixed Choice Questionnaires. In: Social Research Methods: A Reader (eds. C. Seale). Routledge, London.

CITES. (2008). List of Contracting Parties. Retrieved 18th September 2008 from http://www.cites.org/eng/disc/parties/chronolo.shtml.

Clayton, L.M., D. Milner-Gulland, D.W. Sinaga and H. Mustari. 2000. Effects of a Proposed Ex Situ Conservation Program on in Situ Conservation of the Babirusa, an Endangered Suid. Conservation Biology 14: 382-385.

Cochrane, G. and J. Robinson. 2002. Veterinary and Welfare Discussions of Bear Farming and Bile Extraction Methods. Secondary Veterinary and Welfare Discussions of Bear Farming and Bile Extraction Methods, Animals Asia Foundation,

Coleman, L.M. 2002. New Opportunities for Reducing the Risk from Teenage Pregnancy - What Is the Evidence Base for Tackling Risk Behaviours in Combination? Health, Risk and Society 4: 77-93.

Compton, J. 2000. An Overview of Asian Turtle Trade. In: Asian Turtle Trade: Proceedings of a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia 2 (eds. P.P. van Dijk, B.L. Stuart and A. Rhodin). Chelonian research foundation, Lunenberg, USA.

Compton, J. and H.Q. Le. 1998. Borderline: A Report on Wildlife Trade in Vietnam. Secondary Borderline: A Report on Wildlife Trade in Vietnam, WWF Indochina Programme, Hanoi, Vietnam.

Connell, S., J. Fien, J. Lee, H. Sykes and D. Yencken. 1999. 'If It Doesn't Directly Affect You, You Don't Think About It': A Qualitative Study of Young People's Attitudes in Two Australian Cities. Environmental Education Research 5: 95-113.

Cotterel, Y.Y. 1986. The Chinese Kitchen: A Traditional Approach to Eating. George Weidenfeld & Nicolson Ltd, London, UK.

Courchamp, F., E. Angulo, P. Rivalan, R.J. Hall, L. Signoret, L. Bull and Y. Meinard. 2006. Rarity Value and Species Extinction: The Anthropogenic Allee Effect. PLoS Biology 4: 2405-2410.

Cowlishaw, G., S.A.M.A. Mendelson and J.M. Rowcliffe. 2005a. Evidence for Post-Depletion Sustainability in a Mature Bushmeat Market. Journal of Applied Ecology 42: 460-468.

Cowlishaw, G., S.A.M.A. Mendelson and J.M. Rowcliffe. 2005b. Structure and Operation of a Bushmeat Commodity Chain in Southwestern Ghana. Conservation Biology 19: 139-149.

Craig, D. 2002. Familiar Medicine: Everyday Knowledge and Practice in Today's Vietnam. University of Hawai'i Press, Honolulu, Hawai'i.

Cuc, L.T. 1999. Vietnam: Traditional Cultural Concepts of Human Relations with the Natural Environment. Asian Geographer 18: 67-74.

CWCA and WildAid. 2005. Report on the Survey of Wildlife Consumption and Public Attitudes to Wildlife Consumption in China. Secondary Report on the Survey of Wildlife Consumption and Public Attitudes to Wildlife Consumption in China, China Wildlife Conservation Association/WildAid, Beijing, China.

CWCA/PKU. unpublished in Guo 2007. Consumption Behaviour and Conservation Awareness in Major Cities in China. Secondary Consumption Behaviour and Conservation Awareness in Major Cities in China, China Wildlife Conservation Association and Peking University, Beijing, China.

Cyranoski, D. 2004. Swift Response Greets Return of Sars Virus. Nature 427: 89.

Dalton, R. 2003. Mock Turtles. Nature 423: 219-220.

Damania, R. and E.H. Bulte. 2007. The Economics of Wildlife Farming Andendangeredspecies Conservation. Ecological Economics 62.

Davis, D.S. 2000a. Introduction: A Revolution in Consumption. In: The Consumer Revolution in Urban China (eds. D.S. Davis), pp. 1-22. University of California Press, Berkeley, USA.

Davis, D.S. 2000b. The Consumer Revolution in Urban China. University of California Press, Berkeley, USA.

Davis, D.S. and J. Sensenbrenner 2000. Commercialising Childhood. In: The Consumer Revolution in Urban China (eds. D.S. Davis), pp. 54-79. University of California Press, Berkeley, USA.

de Merode, E., K. Homewood and G. Cowlishaw. 2004. The Value of Bushmeat and Other Wild Foods to Rural Households Living in Extreme Poverty in Democratic Republic of Congo. Biological Conservation 118: 573-581.

de Plessis, M.A., J.M. Hutton and B. Dickson 2000. Cites and the Causes of Extinction. In: Endangered Species, Threatened Convention - the Past, Present and Future of Cites). Earthscan, London.

De Vaus, D.A. 1996. Surveys in Social Research. UCL Press, London.

Dickson, B. 2003. What Is the Goal of Regulating Wildlife Trade? Is Regulation a Good Way to Acheive This Goal? In: The Wildlife Trade: Regulation for Conservation (eds. S. Oldfield), pp. 23-31. Earthscan, London.

Dietler, M. 1990. Driven by Drink: The Role of Drinking in the Political Economy and the Case of Early Iron Age France. Journal of Anthropological Archeology 9: 352-406.

Dietler, M. 1996. Feast and Commensal Politics in the Political Economy: Food, Power and Status in Prehistoric Europe. In: Food and the Status Quest: An Interdisciplinary Perspective (eds. P. Wissner and W. Schiefenhovel), pp. 87-125. Berghahn, Providence, USA.

Dixon, C. 2004. State, Party and Political Change in Vietnam. In: Rethinking Vietnam (eds. D. McCargo), pp. 15-26. RoutledgeCurzon, London, UK.

Donovan, D. (1998). Workshop on Policy Issues of Transboundary Trade in Forst Products in Northern Vietnam, Lao PDR and Yunnan Province, PRC. Hanoi, Vietnam: September 14-20, Honolulu, Hawai'i. Program on Environment, East-West Center, Hawai'i.

Donovan, D. 1999. Strapped for Cash, Asians Plunder Their Forests and Endanger Their Future. Secondary Strapped for Cash, Asians Plunder Their Forests and Endanger Their Future, East-West Center, Hawai'i.

Donovan, D. 2004. Cultural Underpinnings of the Wildlife Trade in Southeast Asia. In: Wildlife in Asia: Cultural Perspectives (eds. J. Knight), pp. 88-111. Routledge Curzon, London, UK and New York, USA.

Douglas, M. 1966. Purity and Danger: An Analysis of the Concepts of Pollution and Taboo. Routledge, London and New York.

Douglas, M. 2003. Food in the Social Order. Routledge, London and New York.

Douglas, M. and B. Isherwood 1979. The World of Goods: Towards an Anthropology of Consumption. Routledge, London, UK and New York, USA.

Dronova, N. and A. Shestakov. 2005. Trapping a Living: Conservation and Socio-Economic Aspects of the Fur Trade in the Russian Far East. Secondary Trapping a Living: Conservation and Socio-Economic Aspects of the Fur Trade in the Russian Far East, TRAFFIC Europe-Russia, Vladivistock, Russia.

Drummond, L.B.W. 2003. Popular Television and Images of Urban Life. In: Consuming Urban Culture in Contemporary Vietnam (eds. L.B.W. Drummond and M. Thomas), pp. 155-169. RoutledgeCurzon, London, UK.

Dubois, B. and P. Dubesque. 1993. The Market for Luxury Goods: Income Versus Culture. European Journal of Marketing 9: 35-44.

Duckworth, J.W., R.E. Salter and K. Khounboline. 1999. Wildlife in Lao PDR: 1999 Status Report. Secondary Wildlife in Lao PDR: 1999 Status Report, IUCN, Vientiane, Lao PDR.

Duff, C. 2003. The Importance of Culture and Context: Rethinking Risk and Risk Management in Young Drug Using Populations. Health, Risk and Society 5: 285-299.

Duiker, W.J. 2002. Foreword. In: Hanoi: City of the Rising Dragon (eds. C. Duiker and V.K. Nguyen). Littlefields Publishers Inc., Lanham, USA.

Dutta, M. 2007. Communicating Health: A Culture-Centered Approach. Polity Press.

East, T., N.F. Kumpel, E.J. Milner-Gulland and J.M. Rowcliffe. 2005. Determinants of Urban Bushmeat Consumption in Rio Muni, Equatorial Guinea. Biological Conservation 126: 206-215.

Emerton, L. 2005. Making the Economic Links between Biodiversity and Poverty Reduction: The Case of Lao PDR. Secondary Making the Economic Links between Biodiversity and Poverty Reduction: The Case of Lao PDR, IUCN Colombo, Sri Lanka.

Engler, M. and R. Parry-Jones. 2007. Opportunity or Threat: The Role of the European Union in Global Wildlife Trade. Secondary Opportunity or Threat: The Role of the European Union in Global Wildlife Trade., Brussels, Belgium.

Fa, J.E., D. Currie and J. Meeuwig. 2003. Bushmeat and Food Security in the Congo Basin: Linkages between Wildlife and People's Future. Environmental Conservation 30: 71-78.

Fa, J.E., C.A. Peres and J. Meeuwig. 2002. Bushmeat Exploitation in Tropical Forests: An Intercontinental Comparison. Conservation Biology 16: 232-237.

Farquhar, J. 1994. Eating Chinese Medicine. Cultural Anthropology 9: 471-497.

Farquhar, J. 2002. Appetites: Food and Sex in Post-Socialist China. Duke University Press, Durham, USA.

FFI (2008). Costing the Earth: Putting a Value on Our Natural World. Fauna & Flora, the magazine of Fauna and Flora International.11, Cambridge, UK.

Fforde, A. 2003. Vietnam - Culture and Economy: Dyed-in-the-Wool Tigers? In: Consuming Urban Culture in Contemporary Vietnam (eds. L.B.W. Drummond and M. Thomas), pp. 35-59. RoutledgeCurzon, London, UK.

Fiddes, N. 1992. Meat: A Natural Symbol. Routledge, London, UK and New York, USA.

Figuie, M., N. Brica, Vu Pham Nguyen Thanh, Nguyen Duc Truyen (2004). Hanoi Consumers' Point of View Regarding Food Safety Risks: An Approach in Terms of Social Representation. . Presentation to the XI world congress of rural sociology, July 25-30, 2004. Working Group 30. Food: new desires, new concerns and new forms of consumption., Trondheim, Norway.

Fischer, C. 2004. The Complex Interactions of Markets for Endangered Species Products. Journal of Environmental Economics and Management 48: 926-953.

Foppes, K. and S. Kethpanh (1997). The Use of Non-Timber Forest Products in Lao PDR. Workshop on Protected Area Management, Xishuangbanna, Vientiane. Lao PDR. National Agriculture & Forestry Research Institute, Forest Research Center, Vientianne, Lao PDR.

Fryxell, G.E. and C.W.H. Lo. 2003. The Influence of Environmental Knowledge and Values on Managerial Behaviours on Behalf of the Environment: An Empirical Examination of Managers in China. Journal of Business Ethics 46: 45-69.

Gault, A., Y. Meinard and F. Courchamp. (2008). Less Is More: Rarity Trumps Quality in Luxury Markets. Nature Precedings Retrieved 15th November 2008 from http://precedings.nature.com/documents/1690/version/1.

Geissmann, T., X.D. Nguyen, N. Lormee and F. Momberg. 2000. Vietnam Primate Conservation Review. Secondary Vietnam Primate Conservation Review, Fauna & Flora International, Cambridge, UK.

General Statistical Office. 2005. Vietnam: Population and Aids Indicator Survey. Secondary Vietnam: Population and Aids Indicator Survey, General Statistical Office, National Institute of Hygiene and Epidemiology (NIHE) Vietnam and ORC Macro, Calverton, Maryland, USA.

General Statistics Office of Vietnam. 2006. Socio-Economic Statistical Data of 671 Districts, Towns and Cities under the Authority of Provinces in Vietnam. Secondary Socio-Economic Statistical Data of 671 Districts, Towns and Cities under the Authority of Provinces in Vietnam. S.P. House, Hanoi, Vietnam.

Gillingham, S. 1998. Conservation Attitudes of Villagers Living Next to the Selous Game Reserve. Secondary Conservation Attitudes of Villagers Living Next to the Selous

Game Reserve, Selous, Saadani and Katavi Rukwa Conservation Programmes, Dar Es Salaam, Tanzania.

Gillson, L. and K.J. Willis. 2004. 'as Earth's Testimonies Tell': Wildnerness Conservation in a Changing World. Ecology Letters 7: 990-998.

Ginsberg, J. 2002. Cites at 30, or 40. Conservation Biology 16: 1184-1191.

Glastonbury, B. and J. MacKean 2004. Survey Methods. In: Social Research Methods (eds. A. Reader). Routledge, London.

Go, V.F., V.M. Quan, A. Chung, J. Zenilman, V.T.M. Hanh and D. Celentano. 2002. Gender Gaps, Gender Traps: Sexual Identity and Vulnerability to Sexually Transmitted Diseases among Women in Vietnam. Social Science and Medicine 55: 467-481.

Goody, J. 1982. Cooking, Cuisine and Class: A Study in Comparative Sociology. Cambridge University Press, Cambridge, UK.

Gratwicke, B., E.L. Bennett, S. Broad, S. Christie, A. Dutton, G. Gabriel, C. Kirkpatrick and K. Nowell. 2008. The World Can't Have Wild Tigers and Eat Them, Too. Conservation Biology 22: 222-223.

Green, M.J.B., P.M. Taylor, Y. Feng and S.K.H. Lee. In Press. Part of the Solution or Part of the Problem? Wildlife Farming in China for Use in Traditional Medicine and Its Relationship with Conserving Wild Populations of Animal Species. . Secondary Part of the Solution or Part of the Problem? Wildlife Farming in China for Use in Traditional Medicine and Its Relationship with Conserving Wild Populations of Animal Species. , TRAFFIC International, Cambridge, UK.

Greider, T. and L. Garkovich. 1994. Landscapes: The Social Construction of Nature and the Environment. Rural Sociology 59: 1-24.

Guo, Y. 2007. Behaviours, Attitudes and Values of Wild Meat Consumers in Ghangzhou, China. MSc. Dissertation, Oxford: University of Oxford, UK.

Hahn, B.H., G.M. Shaw, K.M. De Cock and P.M. Sharp. 2000. Aids as a Zoonosis: Scientific and Public Health Implications. Science 287: 607-614.

Haitao, S., J. Parham, M. Lau and C. Tien-Hsi. 2007. Farming Endangered Turtles to Extinction in China. Conservation Biology 21: 5.

Hall, R.J., E.J. Milner-Gulland and F. Courchamp. 2008. Endangering the Endangered: The Effects of Perceived Rarity on Species Exploitation. Conservation Letters 1: 75-81.

Hammersley, M. and R. Gomm (1997) Bias in Social Research. Sociological Research Online 2,

Harris, P.G. 2006. Environmental Perspectives and Behaviour in China: Synopsis and Bibliography. Environment and Behaviour 38: 5-21.

Harris, R.B. 2008. Wildlife Conservation in China: Preserving the Habitat of China's Wild West. An East Gate Book, New York and London.

Hayden, B. 1996. Feasting in Prehistoric and Traditional Societies. In: Food and the Status Quest: An Interdisciplinary Perspective (eds. P. Wiessner and W. Schiefenhovel), pp. 127-47. Berghahn, Providence, USA.

Hayden, B. 2003. Were Luxury Foods the First Domesticates? Ethnoarcheological Perspectives from Southeast Asia. World Archeology 34: 458-469.

Hedges, B. 2004. Sampling. In: Social Research Methods: A Reader (eds. C. Seale), pp. 63-72. Routledge, London, UK.

Heltberg, R. 2001. Impact of the Ivory Trade Ban on Poaching Incentives: A Numerical Example. Ecological Economics 36: 189-195.

Hendrie, D. 2000. Status and Conservation of Tortoises and Freshwater In: Asian Turtle Trade If a Workshop on Conservation and Trade of Freshwater Turtles and Tortoises in Asia 2 (eds. P.P. van Dijk, B.L. Stuart and A.G.J. Rhodin), pp. 63-73. Chelonian research foundation, Lunenberg, USA.

Highley, K. and S.C. Highley. (1994). Bear Farming and Trade in China and Taiwan. Retrieved 2nd December 2008 from www.earthtrust.org/bear.html.

Hilaluddin, R.K. and D. Ghose. 2005. Conservation Implications of Wild Animal Biomass Extractions in Northeast India. Animal Biodiversity and Conservation 28.

Ho, D.Y. 1976. On the Concept of Face. The American Journal of Sociology 81: 867-884.

Author. (2007). "Us Favors Maintaining Global Ban on Tiger Products." VOA News Edition. Retrieved Access Date Access 2007.

Hoa, N.P., V.K. Diwan and A.E.K. Thorson. 2004. Knowledge About Tuberculosis and Its Treatment among New Pulmonary Tb Patients in the North and Central Regions of Vietnam. International Journal of Tuberculosis and Lung Diseases 8: 603-608.

Hoang, B.C., D.T. Pho and N. Huu 1993. An Overview of Vietnamese Traditional Medicine. In: Traditional Vietnamese Medicine). Global Publications, Hanoi, Vietnam.

Hobsbawm, E. and T. Ranger 1992. The Invention of Tradition. Cambridge University Press, Cambridge, UK.

Hobson-West, P. 2003. Understanding Vaccination Resistance: Moving Beyond Risk. Health, Risk and Society 5: 273-283.

Hoffman, L.C., K. Crafford, M. Muller and D.W. Schiutte. 2003. Perceptions and Consumption of Game Meat by a Group of Tourists Visiting South Africa. South African Journal of Wildlife Research 33: 125-130.

Hoffman, L.C., M. Muller, W. De Schutte, F.J. Calitz and K. Crafford. 2005. Consumer Expectations, Perceptions and Purchasing of South African Game Meat. South African Journal of Wildlife Research 35: 33-42.

Hoffman, L.C. and E. Wiklund. 2006. Game and Venison - the Meat for the Modern Consumer. Meat Science 74: 197-208.

Hoover, C. 2003. Response to 'Sex, Drugs and Animal Parts: Will Viagra Save Threatened Species?'. Environmental Conservation 30: 317-318.

Hovell, M.F., E.R. Hillman, E. Blumberg, C. Sipan, C. Atkins, C.R. Hofstetter and A. Myers. 1994. A Behavioural-Ecological Model of Adolescent Sexual Development: A Template for Aids Prevention. The Journal of Sex Research 31: 267-281.

Hsu, V.Y.N. and F.L.K. Hsu 1977. Modern China: North. In: Food in Chinese Culture: Anthropological and Historical Perspectives (eds. K.C. Chang), pp. 429. Yale University Press, New Haven, USA.

Hu, H.C. 1944. The Chinese Concepts of 'Face'. American Anthropologist 46: 45-64.

Huan, N.H., V. Mai, M.M. Escalada and K.L. Heong. 1999. Changes in Rice Farmers' Pest Management in the Mekong Delta, Vietnam. Crop Protection 18: 557-563.

Hue, L.T.V. 1999. Coverage of Resource and Environment Issues in the Vietnamese Press. Asian Geographer 18: 111-122.

Hunter, L.M. 2000. A Comparison of the Environmental Attitudes, Concern, and Behaviours of Native-Born and Foreign-Born Residents. Population and Environment 21: 565-580.

Hunter, L.M. and J. Brehm. 2003. Qualitative Insight into Public Knowledge of, and Concern with, Biodiversity. Human Ecology 31: 309-320.

IFAW. (2006). Made in China: The Illicit Trade in Tiger Bone in China. Retrieved 12th November 2008 from http://www.ifaw.org/ifaw/dimages/custom/2_Publications/Wildlife/MadeinChina_farmingTigersToExtiction.pdf.

Infield, M. and A. Namara. 2001. Community Attitudes and Behaviour Towards Conservation: An Assessment of a Community Conservation Programme around Lake Mburo National Park, Uganda. Oryx 35: 48-60.

Interpol. (2008). Wildlife Crime. Retrieved 18th September 2008 from http://www.interpol.int/Public/EnvironmentalCrime/Wildlife/Default.asp.

IUCN. (2008). Retrieved 18th September 2008 from http://www.iucnredlist.org/.

Jambiya, G., S.A.H. Milledge and N. Mtango. 2007. 'Night Time Spinach': Conservation and Livelihood Implications of Wild Meat Use in Refugee Situations in North-Western Tanzania. Secondary 'Night Time Spinach': Conservation and Livelihood

Implications of Wild Meat Use in Refugee Situations in North-Western Tanzania, Dar es Salaam, Tanzania.

Jamieson, N. 1991. Culture and Development in Vietnam. Secondary Culture and Development in Vietnam.1, Honolulu, Hawai'i.

Jamieson, N. 1996. Ethnic Minorities in Viet Nam: A Country Profile. Secondary Ethnic Minorities in Viet Nam: A Country Profile, Winrock International and World Bank, Hanoi, Vietnam.

Jamieson, N.L. 1993. Understanding Vietnam. University of California Press, Berkeley, USA.

Jelliffe, D.B. 1967. Parallel Food Classifications in Developing and Industrialised Countries. American Journal of Clinical Nutrition 20: 279-281.

Jenkins, R.W.G. 2006. International Conservation of Tigers: A New Approach by China. Unpublished Report. Secondary International Conservation of Tigers: A New Approach by China. Unpublished Report., Creative Conservation Solutions, Belconnen, Australia.

Jepson, P. and R. Ladle. 2006. Bird Keeping in Indonesia: Conservation Impacts and the Potential for Substitution-Based Conservation Responses. Oryx 39: 442-448.

Jewell, J.A. 1983. Theoretical Basis of Chinese Traditional Medicine. In: Health Care and Traditional Medicine (eds. T. Jewell, S.M. Hillier and J.A. Jewell), pp. 221-241. Routledge, London, UK and New York, USA.

Jewell, J.A., S.M. Hillier and J.A. Jewell 1983. Traditional Therapies Ii: Chinese Materia Medica. In: Healthcare and Traditional Medicine in China: 1800-1982), pp. 267-305. Routledge, London, UK and New York, USA.

Johansson, E., N.H. Long, V.K. Diwan and A. Winkvist. 1999. Attitudes to Compliance with Tuberculosis Treatment among Women and Men in Vietnam. International Journal of Tuberculosis and Lung Diseases 3: 862-868.

Kalton, G. and D. Kaspryzk. (1982). Imputing for Missing Survey Responses. Proceedings of the Survey Research Methods Section, American Statistical Association from http://www.amstat.org/Sections/Srms/Proceedings/.

Kang, S. and M. Phipps. 2003. A Question of Attitude: South Korea's Medicine Practitioners and Wildlife Conservation. Secondary A Question of Attitude: South Korea's Medicine Practitioners and Wildlife Conservation, TRAFFIC East Asia, Hong Kong.

Karesh, W.B., R.A. Cook, E.L. Bennett and J. Newcomb. 2005. Wildlife Trade and Global Disease Emergence. Emerging Infectious Diseases 11: 1000-1002.

Kaul, R., J.S. Hilaluddin, J.S. Jandrotia and P.J.K. McGowan. 2004. Hunting of Large Mammals and Pheasants in the Indian Western Himalaya. Oryx 38: 426-431.

Kellert, S.R. 1980. Contemporary Values of Wildlife in American Society. Secondary Contemporary Values of Wildlife in American Society: 31-60, Center for assessment of non-commodity natural resource values, University of Arizona, Tucsan, USA.

Kellert, S.R. 1991a. Japanese Perceptions of Wildlife. Conservation Biology 5: 297-308.

Kellert, S.R. 1991b. Values and Perceptions of Invertebrates. Conservation Biology 7: 845-855.

Kellert, S.R. 1993a. Attitudes, Knowledge, and Behaviour toward Wildlife among Industrial Superpowers: United States, Japan and Germany. Journal of Social Issues 49: 53-69.

Kellert, S.R. 1993b. Japanese Perceptions of Wildlife. Conservation Biology 5: 297-308.

Kellert, S.R. and M.O. Westervelt (1982). Historical Trends in American Animal Use and Perception. North American wildlife and natural resources conference 4: 649-664.

Kotchen, M.J. and S.D. Reiling. 2000. Envionmental Attitudes, Motivations, and Contingent Valuation of Nonuse Values: A Case Study Involving Endangered Species. Ecological Economics 32: 93-107.

Kumpel, N.F. 2006. Incentives for Sustainable Hunting of Bushmeat in Rio Muni, Equatorial Guinea. PhD, London, UK: Imperial College and Institute of Zoology, Zoological Society of London.

Lam, T.P. 2001. Strengths and Weaknesses of Traditional Chinese Medicine and Western Medicine in the Eyes of Hong Kong Chinese. Journal of Epidemiology and Community Health 55: 762-765.

Lapointe, E. 2007. Myth of Trade or No Trade. In: Tiger Conservation: It's Time to Think Outside the Box (eds. IWMC Conservation Trust), pp. 4-6, Lausanne, Switzerland.

Latham, K. 2006. Introduction. In: Consuming China: Approaches to Cultural Change in Contemporary China (eds. K. Latham, M. Thompson and J. Klein), pp. 1-19. Routledge, London and New York.

Latham, K., S. Thompson and J. Klein 2006. Consuming China: Approaches to Cultural Change in Contemporary China. Routledge, London and New York.

Lau, M. and S. Haitao 2000. Conservation and Trade of Terrestrial and Freshwater Turtles and Tortoises in the People's Democratic Republic of China. In: Asian Turtle Trade (eds. P.P. Van Dijk, B.L. Stuart and A. Rhodin), pp. 30-38

Lazaridis, K.N., G.J. Gores and K.D. Lindor. 2001. Ursodeoxycholic Acid 'Mechanisms of Action and Clinical Use in Hepatobiliary Disorders'. Journal of Hepatology 35: 134-146.

Le, M. 2007. Conservation of Turtles in Vietnam: A Survey of Cat Tien National Park. Oryx 41: 544-547.

Leader-Williams, N. and S. Oldfield 2003. Regulation and Protection: Successes and Failures in Rhinoceros Conservation. In: The Wildlife Trade: Regulation for Conservation (eds. S. Oldfield), pp. 89-99. Earthscan, London, UK.

Lee, C. 1990. Modifying an American Consumer Behaviour Model for Consumers in a Confucian Culture: The Case of Fishbein Behavioural Intentions Model. Journal of International Consumer Marketing 3: 27-50.

Lee, R.J., J.G. Robinson and E.L. Bennett 2000. Impact of Subsistence Hunting in North Sulawesi, Indonesia and Conservation Options. In: Hunting for Sustainability in Tropical Forests), pp. 455-472. Colombia University Press, New York, USA.

Lee, S.H.C., A. Gaski and J. Mills. 1998. A World Apart? Attitudes toward Traditional Medicine and Endangered Species in Hong Kong and the United States. Secondary A World Apart? Attitudes toward Traditional Medicine and Endangered Species in Hong Kong and the United States, Washington D. C., USA.

Leibenstein, H. 1950. Bandwagon, Snob and Veblen Effects in the Theory of Consumers' Demand. Quarterly Journal of Economics 64: 183-207.

Leon, P. and S. Montiel. 2008. Wild Meat Use and Traditional Hunting Practices in a Rural Mayan Community of the Yucatan Peninsula, Mexico. Human Ecology 36: 249-257.

Levi-Strauss, C. 1966. The Culinary Triangle. New Society 166: 937-940.

Li, P.J. 2004. China's Bear Farming and Long-Term Solutions. Journal of Applied Animal Welfare Science 7: 71-79.

Li, Y., Z. Gao, X. Li, S. Wang and N. Jari. 2000. Illegal Wildlife Trade in the Himalayan Region of China. Biodiversity and Conservation 9: 1572-9710.

Li, Y. and D. Li. 1998. The Dynamics of Trade in Live Wildlife across the Guangxi Border between China and Vietnam During 1993 - 1996 and Its Control Strategies. Biodiversity and Conservation 7: 895-914.

Li, Z., H. Ning and S. Shan. 2008. Wildlife Trade, Consumption and Conservation Awareness in Southwest China. Biodiversity and Conservation 17: 1493-1516.

Lim, M.K., P. Sadarangani, H.L. Chan and J.Y. Heng. 2005. Complementary and Alternative Medicine Use in Multiracial Singapore. Complementary Therapies in Medicine 13: 16-24.

Lin, J. 2005. Tackling Southeast Asia's Illegal Wildlife Trade. Singapore Year Book of International Law and Contributors 9: 191-208.

Liu, Z.W. 2002. Philosophical Aspects of Chinese Medicine from a Chinese Medicine Academician. In: The Way Forward for Chinese Medicine (eds. K. Chan and H. Lee), pp. 23-50

Lo, V. (2005). Pharmacology, Food and Medicine in China Lecture Series: 1-22. The Wellcome Trust Centre for the History of Medicine at UCL.

Lo, V. and P. Barrett. 2005. Cooking up Fine Remedies: On the Culinary Aesthetic in a Sixteenth-Century Chinese Materia Medica Medical History 49: 395-422.

London, J. and D. McCargo 2000. Rethinking Vietnam's Mass Education and Health Systems. In: Rethinking Vietnam). Routledge, London, UK.

Lu, H. 2000. To Be Relatively Comfortable in an Egalitarian Society. In: The Consumer Revolution in Urban China (eds. D.S. Davis), pp. 125-141. University of California Press, Berkeley, USA.

Ma, H., A. Rae, J. Huang and S. Rozelle. 2004. Chinese Animal Product Consumption in the 1990. Australian Journal of Agricultural and Resource Economics 48: 59-590.

MacGregor, J. 2006. The Call of the Wild: Captive Crocodilian Production and the Shaping of Conservation Incentives. Secondary The Call of the Wild: Captive Crocodilian Production and the Shaping of Conservation Incentives, TRAFFIC International, Cambridge, U.K.

Macklin, R. 1999. Against Relativism: Cultural Diversity and the Search for Ethical Universals in Medicine. Oxford University Press, Oxford, UK.

Manderson, L. 1986. Shared Wealth and Symbol: Food and Culture and Society in Oceania and Southeast Asia. Cambridge University Press, Cambridge, UK.

Mankin, P.C., R.E. Warner and W.L. Anderson. 1999. Wildlife and the Illinois Public: A Benchmark Study of Attitudes and Perceptions. Wildlife Society Bulletin 27: 465-472.

Markus, H.R. and S. Kitayama. 1991. Culture and the Self: Implications for Cognition, Emotion and Motivation. Psychological Review 98: 224-253.

Martin, E.B. and M. Phipps. 1996. A Review of the Wild Animal Trade in Cambodia. TRAFFIC Bulletin 16: 45-60.

Martin, G.H.G. 1983. Bushmeat in Nigeria as a Natural Resource Wth Environmental Implications. Environmental Conservation 53: 40-44.

Martin, R.B., J.M. Hutton and B. Dickson 2000. When Cites Works and When It Does Not. In: Endangered Species, Threatened Convention - the Past, Present and Future of Cites). Earthscan, London, UK.

Mason, R. 1981. Conspicuous Consumption: A Study of Exceptional Consumer Behaviour. Gower, Farnborough, UK.

Matthaes, R. (2006). The Changing Face of Vietnam Consumerism. TNS Vietnam - Research Solutions, Hanoi, Vietnam.

Matthews, B. 1992. The Place of Religion in Vietnam. Buddhist-Christian Studies 12: 65-74.

Matthews, S.H. 2005. Crafting Qualitative Research Articles on Marriages and Families. Journal of marriage and family 67: 799-808.

May, R.M., S. Gupta and A.R. McLean. 2001. Infectious Disease Dynamics: What Characterizes a Successful Invader? Phil. Trans. R. Soc. Lond. B 356: 901-910.

McDaniels, T., L.J. Axelrod and P. Slovic. 1996. Perceived Ecological Risks of Global Change: A Psychometric Comparison of Causes and Consequences. Global Environmental Change 6: 159-171.

McGowan, P., W. Duckworth, X. Wen, S. van Balen, X. Yang, M. Khan, S. Hawa Yatim, L. Thanga, I. Steiwan and R. Kaul. 1998. A Review of the Status of the Green Peafowl *Pavo Muticus* and Recommendations for Future Action. Bird Conservation International 8: 331-348.

McNally, S. 2003. *Bia Om* and Karaoke: Hiv and Everyday Life in Urban Vietnam. In: Consuming Urban Culture in Contemporary Vietnam (eds. L.B.W. Drummond and M. Thomas), pp. 110-122. RoutledgeCurzon, London, UK.

Meacham, C.J. 1997. How the Tiger Lost Its Stripes. Harcourt Brace, Orlando, Florida.

Mendelson, S.A.M.A., G. Cowlishaw and J.M. Rowcliffe. 2003. Anatomy of a Bushmeat Commodity Chain. Journal of Peasant Studies 31: 7-100.

Meng, X. and B. Zhai (2000). Prohibition of Trade in Tiger Bone and Related Issues. . International workshop on wild Amur tiger population recovery action plan, Harbin, China. Wildlife Conservation Society.

Messer, K.D. 2002. Should Poachers Be Shot on Sight? Efficacy, Economics and Ethics. Department of Economics, Cornell University, New York.

Milius, S. 2005. Bushmeat on the Menu. Science News 167: 138.

Miller, J. 2005. Biodiversity Conservation and the Extinction of Experience. Trends in Ecology & Evolution 8.

Mills, J., S. Chan and I. A. 1995. The Bear Facts: The East Asian Market for Bear Gall Bladder. Secondary The Bear Facts: The East Asian Market for Bear Gall Bladder, TRAFFIC East Asia, Cambridge, U.K.

Milner-Gulland, E.J. and H.R. Akcakaya. 2001. Sustainability Indices for Exploited Populations. Trends in Ecology and Evolution 16: 686-692.

Milner-Gulland, E.J. and E.L. Bennett. 2003. Wild Meat: The Bigger Picture. Trends in Ecology & Evolution 18: 351-357.

Ministry of Labour (2006). Statistical Data of Employment and Unemployment in Viet Nam 1996 - 2005. Centre for Informatics. Labour and Social Publishing House, Hanoi, Vietnam.

Minot, N., B. Baulch and M. Epprecht. 2003. Poverty and Inequality in Vietnam: Spatial Patterns and Geographic Determinants. Secondary Poverty and Inequality in Vietnam: Spatial Patterns and Geographic Determinants.148: 87, International Food Policy Research Institute and Institute of Development Studies, Washington D.C., USA.

Misra, M. 2003. Evolution, Impact and Effectiveness of Domestic Wildlife Trade Bans in India. In: The Trade in Wildlife: Regulation for Conservation (eds. S. Oldfield). Earthscan, London, UK.

Mondak, J. and M. Anderson. 2003. The Knowledge Gap or a Guessing Game? Gender and Political Knowledge. Public perspectives 14: 6-9.

Mordi, R. 1987. Public Attitudes toward Wildlife in Botswana. PhD, Yale University.

Morgan, D. 1988. Focus Groups as Qualitative Research. Sage Publications, Newbury park, USA.

Morris, P.A. 1987. Changing Attitudes Towards British Mammals. Biological Journal of the Linnean Society 32: 225-233.

Morrow, M., D.H. Ngoc, T.T. Hoang and T.H. Trinh. 2002. Smoking and Young Women in Vietnam: The Influence of Normative Gender Roles. Social Science and Medicine 55: 681-690.

Moser, C. and G. Kalton 2004. Questionnaires. In: Social Research Methods: A Reader (eds. C. Seale). Routledge, London.

Mostafa, M.M. 2006. Gender Differences in Egyptian Consumers' Green Purchase Behaviour: The Effects of Environmental Knowledge, Concern and Attitude. International Journal of Consumer Studies1-14.

Moyle, B. and S. Oldfield 2005. Regulation, Conservation and Incentives. In: The Wildlife Trade: Regulation for Conservation (eds. S. Oldfield), pp. 41-51. Earthscan, London.

Myers, N., R.A. Mittermeier and C.G. Mittermeier. 2000. Biodiversity Hotspots for Conservation Priorities. Nature 403: 853-8.

Nash, S.V. 1997. Fin, Feather, Scale and Skin: Observations on the Wildlife in Lao PDR and Vietnam. Secondary Fin, Feather, Scale and Skin: Observations on the Wildlife in Lao PDR and Vietnam, TRAFFIC Southeast Asia, Kuala Lumpur, Malaysia.,

Neef, A., C. Sangkapitux and K. Kichmann. 2000. Does Land Tenure Security Enhance Sustainable Land Management? Evidence from Mountainous Regions of Thailand and Vietnam. Discussion Paper 2/2000, Research in Development Economics and Policy. Secondary Does Land Tenure Security Enhance Sustainable Land Management? Evidence from Mountainous Regions of Thailand and Vietnam. Discussion Paper 2/2000, Research in Development Economics and Policy,

Institute of Agricultural Economics and Social Sciences in the Tropics and Subtropics, University of Hohenheim, Stuttgart, Germany.

Nguyen, D.N.V. and T. Nguyen 2008. An Overview of the Use of Plants and Animals in Traditional Medicine Systems in Viet Nam. TRAFFIC Southeast Asia, Greater Mekong Programme, Hanoi, Vietnam.

Nguyen, D.P. and E. Reeves. 2005. Public Attitudes Towards the Use of Bear Bile in Vietnam. Secondary Public Attitudes Towards the Use of Bear Bile in Vietnam, Education for Nature, Vietnam, Hanoi.

Nguyen, H.L., E. Johansson, V.K. Diwan and A. Winkvist. 1999. Different Tuberculosis in Men and Women: Beliefs from Focus Groups in Vietnam. Social Science and Medicine 49: 815-822.

Nguyen, P.A. 2004. Pursuing Success in Present-Day Vietnam: Young Graduates in Hanoi. In: Rethinking Vietnam (eds. D. McCargo), pp. 165-176. RoutledgeCurzon, London, UK.

Nguyen, S.V. 2003. Wildlife Trading in Vietnam: Why It Flourishes. Secondary Wildlife Trading in Vietnam: Why It Flourishes: 1-75, EEPSEA Research reports, Tanglin, Singapore.

Nguyen, S.V. 2008. Wildlife Trading in Vietnam: Situation, Causes and Solutions. Journal of Environment and Development 17: 145165.

Nguyen, T.N.N., C. Ellertson, S. Yukolsiri and T.L. Ly. 1997. Knowledge and Attitudes About Emergency Contraception among Health Workers in Ho Chi Minh City, Vietnam. International Family Planning Perspectives 23: 68-72.

Nguyen, T.T. 2001. Awareness of Vietnamese Primary Schoolteachers on Environmental Education. International Research in Geographical and Environmental Education 10: 429-444.

Nguyen, V.K. 2002a. A City That Remembers. In: Hanoi: City of the Rising Dragon (eds. G. Boudarel and V.K. Nguyen), pp. 11-46. Littlefield Publishers Inc., Lanham, USA.

Nguyen, V.K. 2002b. The Era of Renovation. In: Hanoi: City of the Rising Dragon (eds. G. Boudarel and V.K. Nguyen), pp. 153-166. Littlefield Publishers Inc., Lanham, USA.

Nguyen, X.T. 2006. A Glimpse of the Traditional Medicines of Animal Origin. In: Traditional Vietnamese Medicine). Global Publications, Hanoi, Vietnam.

Nooren, H. 2004. Seima Biodiversity Conservation Program: Development of an Environmental Communication Strategy. Secondary Seima Biodiversity Conservation Program: Development of an Environmental Communication Strategy, WCS Cambodia, Phnom Penh.

Nooren, H. and G. Claridge 2000. Wildlife Trade in Laos: The End of the Game. Netherlands Committe for the IUCN, Amsterdam.

Nowell, K. 2006. Far from a Cure: The Tiger Trade Revisited. Secondary Far from a Cure: The Tiger Trade Revisited, TRAFFIC International, Cambridge, UK.

Nowell, K. and L. Xu. 2007. Taming the Tiger Trade: China's Markets for Wild and Captive Tiger Products since the 1993 Domestic Trade Ban. Secondary Taming the Tiger Trade: China's Markets for Wild and Captive Tiger Products since the 1993 Domestic Trade Ban, TRAFFIC East Asia, Hong Kong, China.

Nyhus, P.J., Sumianto and R. Tilson. 2003. Wildlife Knowledge among Migrants in Southern Sumatra, Indonesia: Implications for Conservation. Environmental Conservation 30: 192-199.

Oates, C. 2002. The Use of Focus Groups in Social Research. In: Research Training Fo Social Scientists (eds. D. Burton). Sage Publications, London.

Oppenheim, A.N. 1992. Questionnaire Design, Interviewing and Attitude Measurement. Pinter Publishers, London and New York.

Parry-Jones, R. (2001). Musk Deer Farming in China. Dispatches Retrieved 06/10/06 2006.

Parry-Jones, R. and A. Vincent. 1998. Can We Tame Wild Medicine? New Scientist 157: 26.

Pate, J. and J. Loomis. 1997. The Effect of Distance on Willingness to Pay Values: A Case Study of Wetland and Salmon in California. Ecological Economics 20: 199-207.

Patz, J.A., T.K. Graczyk, N. Geller and A.Y. Vittor. 2000. Effects of Environmental Change on Emerging Parasitic Diseases. International Journal for Parasitology1-11.

Pelzer, K. 1992. On Defining "Vietnamese Religion": Reflections on Bruce Matthews' Article. Buddhist-Christian Studies 12: 75-59.

Peres, C.A. 2000. Effects of Subsistence Hunting on Vertebrate Comunity Structure in Amazonain Forests. Conservation Biology 14: 240-253.

Peterson, M.N., R.R. Lopez, E.J. Laurent, P.A. Frank, N.J. Silvy and J. Liu. 2005. Wildlife Loss through Domestication: The Case of Endangered Key Deer. Conservation Biology 19: 939-944.

Pham, T.T. and T. Rambo. 2003. Environmental Consciousness in Vietnam. Southeast Asian Studies 41: 76-100.

Pilgrim, J. and T.D. Nguyen. 2007. Threatened and Alien Species in Vietnam: Background and Recommendations for the Content of the National Biodiversity Law. Secondary Threatened and Alien Species in Vietnam: Background and Recommendations for the Content of the National Biodiversity Law, Birdlife International Vietnam Programme, Hanoi.

Pimental. 2005. The Value of Forests to World Food Security. Human Ecology 25: 91-120.

Piseth, H. 2001. Hunting Report, Mondolkiri. Secondary Hunting Report, Mondolkiri, WCS Cambodia, Phnom Penh.

Polet, G. and S. Ling. 2004. Protecting Mammal Diversity: Opportunities and Constraints for Pragmatic Conservation Management in Cat Tien National Park, Vietnam. Oryx 38: 186-196.

Rabinowitz, A. 2001. Beyond the Last Village: A Journey of Discovery in Asia's Forbidden Wilderness. Island Press, Washington D.C., USA.

Raintree, J., T.N.N. Nguyen and T.A. Bui. 2007. Ntfp Impact Assessment Report. Secondary Ntfp Impact Assessment Report, IUCN and Forest Science Institute of Viet Nam, Hanoi, Vietnam.

Rajendran, P.R., R.E. Thompson and S.G. Reich. 2001. The Use of Alternative Therapies by Patients with Parkinson's Disease. Neurology 7: 790-794.

Rao, M. and P.K.J. McGowan. 2002. Wild Meat Use, Food Security, Livelihoods and Conservation. Conservation Biology 16: 580-583.

Read, B.E. 1931. Chinese Materia Medica: Animal Drugs from Pen Ts'ao Kang Mu by Li Shin-Chen (1597). Peking Natural History Bulletin, Beijing, China.

Reading, R.P. and S.R. Kellert. 1993. Attitudes toward a Proposed Reintroduction of Black-Footed Ferrets (*Mustela Nigripes*). Conservation Biology 7: 569-580.

Redford, K. 1992. The Empty Forest. Bioscience 42: 412-422.

Reuters. (2008). Zoo in Vietnam Admits to Auctioning Tiger Bodies. Retrieved 12th January 2008 from http://uk.reuters.com/article/environmentNews/idUKHAN2882420080110.

Roberton, S. 2004. An Assessment of the Threats to the Biodiversity of Phnong Nha-Ke Bang National Park, Quang Binh Province, Vietnam. Secondary An Assessment of the Threats to the Biodiversity of Phnong Nha-Ke Bang National Park, Quang Binh Province, Vietnam, Fauna & Flora International, Vietnam.

Roberton, S., V.T. Huyen, N.N. Nguyen, L. Ho, H.S. Le, Q. Nguyen, N.A. Vu, V.D. Le, X.T. Hoang, N. Vu, T and B. Long. 2004. The Illegal Wildlife Trade in Quang Nam Province: Covert Investigations by Specially Trained Forest Rangers. Secondary The Illegal Wildlife Trade in Quang Nam Province: Covert Investigations by Specially Trained Forest Rangers, Quang Nam Forest Department & WWF Indochina, Vietnam.

Robinson, J.G. and E.L. Bennett. 2004. Having Your Wildlife and Eating It Too: An Analysis of Hunting Sustainability across Tropical Ecosystems. Animal Conservation 7: 397-408.

Robinson, J.G., G. Cochrane and K. Loeffler 2006. Discussion Regarding the Impacts of Bear Bile Farming on Wild Bears in China and Vietnam. Animals Asia Foundation, Hong Kong, China.

Rodriguez, J.P. 2000. Impact of the Venezualan Economic Crisis on Wild Populations of Animals and Plants. Biological Conservation 96: 151-159.

Roe, D. 2008. Trading Nature: A Report, with Case Studies, on the Contributions of Wildlife Trade Management to Sustainable Livelihoods and the Millenium Development Goals. Secondary Trading Nature: A Report, with Case Studies, on the Contributions of Wildlife Trade Management to Sustainable Livelihoods and the Millenium Development Goals, TRAFFIC International and WWF International,

Roe, D., T. Mulliken, S. Milledge, J. Mremi, S. Mosha and M. Grieg-Gran. 2002. Making a Killing or Making a Living? Wildlife Trade, Trade Controls and Rural Livelihoods. Secondary Making a Killing or Making a Living? Wildlife Trade, Trade Controls and Rural Livelihoods, IIED and TRAFFIC, London, UK.

Rose, A.L. 2001. Social Change and Social Values in Mitigating Bushmeat Commerce. In: Hunting and Bushmeat Utilization in the African Rain Forset: Perspectives toward a Blueprint for Conservation Action (eds. M.I. Bakarr, G.A.B. da Fonseca, R.A. Mittermeier, A.B. Rylands and K.W. Painemilla). Conservation International, Washington D. C., USA.

Ruston, A. and J. Clayton. 2002. Coronary Heart Disease: A Woman's Assessment of Risk - a Qualitative Study. Health, Risk and Society 4: 125-137.

Saunders, C.D. 2003. The Emerging Field of Conservation Psychology. Human Ecology Forum 10: 137-149.

Schafer, E.H. 1968. Hunting Parks and Animal Enclosures in Ancient China. Journal of Economic and Social History of the Orient 11: 318-343.

Schenck, M., E.N. Effa, M. Styarkey, D. Wilkie, K. Abernethy, P. Telfer, R. Godoy and A. Treves. 2006. Why People Eat Bushmeat: Results from Two-Choice Taste Tests in Gabon, Central Africa. Human Ecology 34: 433-445.

Schrag, S.J. and P. Wiener. 1995. Emerging Infectious Disease: What Are the Relative Roles of Ecology and Evolution? Trends in Ecology and Evolution 10: 319-324.

SFNC. 2003. Hunting and Trading Wildlife: Investigation into the Wildlife Trade in and around Pu Mat National Park, Nghe an Province, Vietnam Secondary Hunting and Trading Wildlife: Investigation into the Wildlife Trade in and around Pu Mat National Park, Nghe an Province, Vietnam Social Forestry and Nature Conservation in Nghe An Province, Vinh City, Vietnam.

Shen, G. 1985. The History of China-Foreign Countries Trade. People's Press, Guangzhou: Guangdong, China.

Shepherd, C. 2006. The Bird Trade in Medan, North Sumatra: An Overview. Birding Asia 5: 16-24.

Shepherd, C., J. Sukumaran and S.A. Wich. 2004. Open Season: An Analysis of the Pet Trade in Medan, Sumatra 1997-2001. Secondary Open Season: An Analysis of the Pet Trade in Medan, Sumatra 1997-2001, Petaling Jaya, Selangor, Malaysia.

Shi, H. and J.F. Parham. 2000. Preliminary Observations of a Large Turtle Farm in Hainan Province, People's Republic of China. Turtle and Tortoise Newsletter 3: 4-6.

Shiping, G., W. Jichao, S. Haitao, S. Riheng and X. Rumei. 2006. Illegal Trade and Conservation Requirements of Freshwater Turtles in Nanmao, Hainan Province. Oryx 40: 331-336.

Simoons, F.J. 1991. Food in China. Secondary Food in China, CRC Press, Florida.

Sivin, N. 1987. Traditional Medicine in Contemporary China. Center for Chinese Studies, University of Michigan, USA.

Skov, L. 2005. The Return of the Fur Coat: A Commodity Chain Perspective. Current Sociology 53: 9-32.

Smith, L. and S. Broad. 2008. Comparing Zoos and the Media as Conservation Educators. Visitor Studies 11: 16-25.

Soucy, A. 2003. Pilgrims and Pleasure-Seekers. In: Consuming Urban Culture in Contemporary Vietnam (eds. L.B.W. Drummond and M. Thomas), pp. 125-137. RoutledgeCurzon, London.

Srikosamatara, S. 1992. Wildlife Trade in Lao PDR and between Lao PDR and Thailand. Natural History Bulletin of the Siam Society 40: 1-47.

Srikosamatara, S. and Suteethorn. 1994. Wildlife Conservation Along the Lao-Thai Border. Natural History Bulletin of the Siam Society 42: 3-21.

Stafford, C. 2006. Deception, Corruption and the Chinese Ritual Economy. In: Consuming China: Approaches to Cultural Change in Contemporary China (eds. K. Latham, M. Thompson and J. Klein). Routledge, London, UK and New York, USA.

Starkey, M. 2004. Commerce and Subsistence: The Hunting, Consumption and Sale of Bushmeat in Gabon. Cambridge, UK: University of Cambridge.

Steel, E.A. 1994. Study of the Value and Volume of Bushmeat Commerce in Gabon. Secondary Study of the Value and Volume of Bushmeat Commerce in Gabon, Ministry fo Forests and Environment, Libreville, Gabon.

Sterling, E.J., M.M. Hurley and D.M. Le 2006. Vietnam: A Natural History. Yale University Press, New Haven and London.

Stewart, D.W. and P.N. Shamdasani 2006. Focus Groups: Theory and Practice. Sage Publications.

Stier, K. (2001). The New Ho Chi Minh Trail: Wildlife Smugglers Aim for the China Market. Retrieved 17th May 2006 2006 from http://www.pathfinder.com/asiaweek/98/0724/feat6.html.

Stiles, D. 2004. The Ivory Trade and Elephant Conservation. Environmental Conservation 31: 309-321.

Stoll-Kleeman, S., T. O'Riordan and C.C. Jaeger. 2001. The Pschology of Denial Concernign Climate Mitigation Measures: Evidence from Swiss Focus Groups. Global Environmental Change 11: 107-117.

Stuart, B.L., R.J. Timmins, P.P. Van Dijk, B.L. Stuart and A. Rhodin 2000. Conservation Status and Trade of Turtles in Laos. In: Asian Turtle Trade). Chelonian Research Foundation, Lunenberg, USA.

Author. (2006). "The Measurement of Factual Knowledge in Surveys." Edition. Retrieved Access Date Access 2006.

Swanson, L.A. 1996. 19850+ Billion Mouths to Feed: Food Linguistics and Cross-Cultural, Cross-"National" Food Consumption Habits in China. British Food Journal 98: 33-44.

Swanson, T. 2007. Re-Telling the Tale of the Commons: A Tale of Rent Seeking, Corruption, Stockpiling and (Even) Tragedy. International review of environmental and resource economics 1: 111-150.

Szagun, G. and V.I. Pavlov. 1995. Environmental Concern: A Comparative Stufy of German and Russian Adolescents. Youth and Society 27: 93-112.

Tan, L.C.S., P.-N. Lau, R.D.G. Jamora and E.S.Y. Chan. 2006. Use of Complementary Therapies in Patients with Parkinson's Disease in Singapore. Movement Disorders 21: 86-89.

Taylor, L.H., S.M. Latham and M.E.J. Woolhouse. 2001. Risk Factors for Human Disease Emergence. Phil. Trans. R. Soc. Lond. B 356: 983-989.

Taylor, P. 2004. Goddess on the Rise: Pilgimage and Popular Religion in Vietnam. University of Hawai'i Press Honolulu, Hawai'i.

Thang, N.M. and B.M. Popkin. 2004. Patterns of Food Consumption in Vietnam: Effects on Socioeconomic Groups During an Era of Economic Growth. European Journal of Clinical Nutrition143-153.

Thanh Nien. (2007). Rock the Cradle of Love: Natural Viagra. Retrieved 12th October 2007 from http://www.thanhniennews.com/healthy/?catid=8&newsid=32453.

Thanh Nien. (2008). Searching for Brand Vietnam. Retrieved 5th May 2008 from http://www.thanhniennews.com/travel/?catid=7&newsid=38257.

The Times. (2006). Women Seeking Healthy Option Lift Supermarket Sales of Game Meats. The Times Online 16th March 2006. Retrieved 15th January 2008 from http://www.timesonline.co.uk/tol/news/uk/health/article1522620.ece.

The Times of India. (2008). Wild-Meat Dhaba Raided. Retrieved 13th November 2008 from http://timesofindia.indiatimes.com/Cities/Wild-meat_dhaba_raided/articleshow/2736063.cms.

Thomas, M. and L.B.W. Drummond 2003. Introduction. In: Consuming Urban Culture in Contemporary Vietnam (eds. L.B.W. Drummond and M. Thomas), pp. 1-18. RoutledgeCurzon, London.

Thorbjarnarson, J. 1999. Crocodile Tears and Skins: International Trade, Economic Constraints, and Limits to the Sustainable Use of Crocodilans. Conservation Biology 13: 465-470.

Tilson, R. and K. Traylor-Holzen 1994. Estimating Poaching and Removal Rates of Tigers in Sumatra. In: Sumatran Tiger Report: Population and Habitat Viability Analysis (eds. R. Tilson, K. Soemarna, W. Ramonoet al). Indonesian Forest Protection and Nature Conservation (PHPA) and IUCN/SSC Captive Breeding Specialist Group

Tong, D. 2007. Understanding the Motivations of Wildlife Consumption. In: The State Fo the Wildlife Trade in China: Information on the Trade in Wild Animals and Plants in China 2007 (eds. H. Xu and C. Kirkpatrick). TRAFFIC East Asia

TRAFFIC 2006a. The Convention on International Trade in Endangered Species of Flora and Fauna - a Manual for Customs Officials in Vietnam. TRAFFIC, Hanoi, Vietnam.

TRAFFIC. 2008. What's Driving the Wildlife Trade? A Review of Expert Opinion on Economic and Social Drivers of the Wildlife Trade and Trade Control Efforts in Cambodia, Indonesia, Laos and Vietnam. Secondary What's Driving the Wildlife Trade? A Review of Expert Opinion on Economic and Social Drivers of the Wildlife Trade and Trade Control Efforts in Cambodia, Indonesia, Laos and Vietnam, Washington D.C., USA.

TRAFFIC/WCS. 2004. Hunting and Wildlife Trade in Asia: Proceedings of a Strategic Planning Meeting of the Wildlife Conservation Society and Traffic. Secondary Hunting and Wildlife Trade in Asia: Proceedings of a Strategic Planning Meeting of the Wildlife Conservation Society and Traffic., TRAFFIC/WCS, Bali, Indonesia.

Transparency International. (2008). 2007 Corruption Perceptions Index, Regional Highlights: Asia Pacific Region. TI Corruption Perceptions Index Retrieved 29th August 2008 from http://www.transparency.org/policy_research/surveys_indices/cpi.

Trigg, A.B. 2001. Veblen, Bourdieu, and Conspicuous Consumption. Journal of Economic Issues XXXV: 99-115.

Truitt, A. 2008. On the Back of a Motorbike: Middle-Class Mobility in Ho Chi Minh City, Vietnam. American Ethnologist 35: 3-19.

Tuyen, L.D., L.B. Mai, N. Bricas, M. Figuie, M. Dop, N.D. Chung and N.C. Khan. 2004. Trends in Food Consumption and in the Nutritional Status of Urban Dwellers in Vietnam over the Last Twenty Years. Cahiers Agricultures 13: 31-38.

UN. (2006). World Population Prospects, the 2006 Revision: Highlights. Retrieved 29th October 2008 from http://www.un.org/esa/population/publications/wpp2006/WPP2006_Highlights_rev.pdf.

UN Data. (2008). Population Projections: Vietnam. Retrieved 28th October 2008 from http://data.un.org/Data.aspx?q=vietnam+projection&d=GenderStat&f=inID%3a7%3bcrID%3a138.

UNEP. 1998. Policy Effectiveness and Multilateral Environmental Agreements. Secondary Policy Effectiveness and Multilateral Environmental Agreements, UNEP Economics, Trade and Environment Unit, Geneva, Switzerland.

Van De Meeberg, P.C. and K.J. Van Erpecum. 1993. Therapy with Ursodeoxycholic Acid in Colestatic Liver Disease. Scandinavian Journal of Gastroenterology 28: 15-20.

van der Veen, M. 2003. When Is Food a Luxury? World Archeology 34: 405-427.

van der Walle, D. and D. Gunewardena. (2000). Sources of Inequality in Viet Nam. Policy, research working paper no. WPS2297 Retrieved 5th November 2008 from http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2000/04/24/000094946_00040605325051/Rendered/INDEX/multi_page.txt.

Veblen, T. 1934. The Theory of the Leisure Class. Random House Inc., New York, USA.

Venkataraman, V.C. 2007. A Matter of Attitude: The Consumption of Wildlife Products in Hanoi, Viet Nam. Secondary A Matter of Attitude: The Consumption of Wildlife Products in Hanoi, Viet Nam, TRAFFIC Southeast Asia, Hanoi, Vietnam.

VietnamNet. (2007). Hanoi, Hcm City to Take Tough Measures to Prevent Traffic Jams. Retrieved 24th September 2007 from http://english.vietnamnet.vn/social/2007/09/744267/.

Vigneron, F. and L.W. Johnson. 1999. A Review and a Conceptual Framework of Prestige-Seeking Consumer Behaviour Academy of Marketing Science Review 1.

Vince, G. (2002). Organised Gangs Target Wildlife Trade. New Scientist 17th June 2002 Retrieved 14th May 2006 from http://www.newscientist.com/article.ns?id=dn2413.

VNA. (2006). Another 16 Arrested for Rare Animal Theft in Southern Vietnam. ThanNienNews.com October 6th. Retrieved 7th October 2006 from http://www.thanhniennews.com/society/?catid=3&newsid=20892.

VNA. (2007a). Binh Duong Tigers Continue to Breed. Retrieved 27th March 2007 from http://www.english.vietnamnet.vn/social/2007/03/676644/.

VNA. (2007b). Binh Duong Tigers in Controversy. Retrieved 27th March 2007 from http://www.english.vietnamnet.vn/reports/2007/03/677500/.

VNA. (2007c). Pm Instructs to Deal with Illegal Breeding of Tigers. Retrieved 27th March 2007 from http://www.english.vietnamnet.vn/social/2007/03/672372/.

VNA. (2007d). The Fate of 41 Kept-in-Cage Tigers to Be Reported to Government. Retrieved 27th March 2007 from http://www.english.vietnamnet.vn/social/2007/03/675264/.

VNA. (2007e). Tiger Breeder Asks for Pm's Help. Retrieved 27th March 2007 from http://www.english.vietnamnet.vn/social/2007/03/674968/.

VNS. (2007a). Agriculture Restructuring Scores a Success. Vietnam News Retrieved 17th October 2007 from http://vietnamnews.vnagency.com.vn/showarticle.php?num=01AGR171107.

VNS. (2007b). City Bears Down on Animal Farms. Vietnam News Retrieved 11th July 2007 from http://vietnamnews.vnagency.com.vn/showarticle.php?num=01ENV110707.

von Hippel, F.A. and W. von Hippel. 2002. Sex, Drugs and Animal Parts: Will Viagra Save Threatened Species? Environmental Conservation 29: 277-281.

von Hippel, W., F.A. von Hippel, N. Chan and C. Cheng. 2005. Exploring the Use of Viagra in Place of Animal and Plant Potency Products in Traditional Chinese Medicine. Environmental Conservation 33: 235-238.

Wang, A. 2000. Cultivating Friendship through Bowling in Shenzhen. In: The Consumer Revolution in Urban China (eds. D.S. Davis), pp. 250-267. University of California Press, Berkeley, USA.

Warne, S. and L.P. Tran 2002. Vietnam. In: Biodiversity Planning in Asia (eds. J. Carew-Reid), pp. 26. IUCN, Gland, Switzerland.

Weeks, J., N. Thang, R. Roy and J. Lim. 2004. The Case Study of Vietnam: Seeking Equity within Growth. Secondary The Case Study of Vietnam: Seeking Equity within Growth, United Nations Development Programme, Hanoi, Vietnam.

Weiss, R.A. 1994. Learning from Strangers: The Art and Method of Qualitative Interview Studies. Free Press, New York, USA.

Weiss, R.A. 2005. The Leeuwenhoek Lecture 2001. Animal Origins of Human Infectious Disease. Phil. Trans. R. Soc. Lond. B 356: 957-977.

Weitzel, V. (2008). Mammal List. Retrieved 24th July 2008 from http://coombs.anu.edu.au/~vern/hnu/mammal-list.txt.

White, P.C.L., A.C. Bennett and E.J. Hayes. 2001. The Use of Willingness to Pay Approaches in Mammal Conservation. Mammal Review 31: 151-167.

WHO. (2005). Avian Influeza: Assessing the Pandemic Threat. Retrieved 12th February 2008 from http://www.who.int/csr/disease/influenza/WHO_CDS_2005_29/en/.

Author. (2008). "Traditional Medicine." Edition. Retrieved Access Date Access 2008 from http://www.who.int/mediacentre/factsheets/fs134/en/.

Wilkie, D., M. Starkey, K. Abernethy, E. Nstame Effa, P. Telfer and R. Godoy. 2005. Role of Prices and Wealth in Consumer Demand for Bushmeat in Gabon, Central Africa. Conservation Biology 19: 268-274.

Wilkie, D.S. and J. Carpenter. 1999. Bushmeat Hunting in the Congo Basin: An Assessment of Impacts and Mitigation. Biodiversity and Conservation 8: 927-955.

Wilkie, D.S. and R.A. Godoy. 2001. Income and Price Elasticities of Bushmeat Demand in Lowland Amerindian Societies. Conservation Biology 15: 761-769.

Wolch, J. and U. Lassiter (2004). Attitudes toward Animals among African American Women in Los Angeles. Proceedings 4th International Urban Wildlife Symposium.

Wong, K.K. 2005. Greening the Chinese Mind: Environmentalism with Chinese Characteristics. Asia Pacific Review 12: 39-57.

Wong, N.Y. and A.C. Ahuvia. 1998. Personal Taste and Family Face: Luxury Consumption in Confucian and Western Societies. Psychology & Marketing 15: 423-441.

World Bank. 2005. Going, Going, Gone: The Illegal Trade in Wildlife in East and Southeast Asia. Secondary Going, Going, Gone: The Illegal Trade in Wildlife in East and Southeast Asia, The World Bank, Washington D. C., USA.

World Bank. (2007). Vietnam at a Glance, Country Report: Vietnam. Retrieved 16 May 2008 from http://devdata.worldbank.org/AAG/vnm_aag.pdf.

WPAC. 2000. Wildlife. Discovery of Nature 80: 78-79.

Wu, Y., Z. Yi, C. Fu, K. Ye and X. Bi. 2001. Analysis on the Wildlife-Eating Condition in Guangzhou City after Investigation. . Journal of Guangzhou University (Science Edition) 15: 93-96.

Xu, L., M. Meng and F. Yin 2007. The Wild Meat Trade in Southern China. In: The State of Wildlife Trade in China: Information on the Trade in Wild Animals and Plants in

China 2007 (eds. H. Xu and C. Kirkpatrick). TRAFFIC East Asia Programme, Beijing, China.

Yang, D., X. Dai, Y. Deng, W. Lu and Z. Jiang. 2007. Changes in Attitudes toward Wildlife and Wildlife Meats in Hunan Province, Central China, before and after the Severe Acute Respiratory Syndrome Outbreak. Integrative Zoology 1: 19-25.

Yang, Q., X. Meng, L. Xia and Z. Feng. 2003. Conservation Status and Causes of Decline of Musk Deer (Moschus Spp.) in China. Biological Conservation 109: 333-342.

Yen, K.Y. 1992. The Illustrated Chinese Materia Medica. SMS Publishing, Taipei.

Zhang, L.J., H. Ning and S. Shan. 2008. Wildlife Trade, Consumption and Conservation Awareness in Southwest China. Biodiversity and Conservation 17: 1493-1516.

Zhou, Z. and Z. Jiang. 2004. International Trade Status and Crisis for Snake Species in China. Conservation Biology 18: 1386-1394.

Zinn, H.C. and X.S. Shen. 2007. Wildlife Value Orientations in China. Human Dimensions of Wildlife 12: 331-338.

Zollmun, C. and A. Vickers. 1999. Users and Practitioners of Complementary Medicine. British Medical Journal 319: 836-838.

Zomborsky, Z., G. Szentmihalyi, I. Sarudi, P. Horn and C.S. Szabo. 1996. Nutrient Composition of Muscles in Deer and Boar. Journal of Food Science 61: 625-627.

Zu, S.X., P.J. Li and P.F. Su. 2005. Animal Welfare Consciousness of Chinese College Students: Findings and Analysis. China Information 19: 67-95.

Appendix A. Questionnaire

A.1. English

1. I admire people who can produce winning fighting cocks
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

2. If more land is needed to produce food for export then Vietnam must clear the habitat of some wild animals
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

3. Vietnam should invest in wild animal conservation
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

4. Vietnam should concentrate on conserving wild species that are economically valuable above those that are scientifically interesting
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

5. I support recreational hunting of deer
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

6. When visiting a zoo I most like to see the attractive animals such as peacocks or big cats
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

7. I prefer seeing wild animals on television or in a zoo than running free near me
   - ☐ Strongly agree
   - ☐ Agree
   - ☐ No opinion
   - ☐ Disagree
   - ☐ Strongly disagree

Thank you for completing this survey...

Day:..... Month:.....

Ward:.....

Ba Đình (1) ☐☐ Đống Đa (2) ☐☐ Hoàn Kiếm (3) ☐☐ Hai Bà Trưng (4) ☐☐
Lương (1) ☐☐ Nga (2) ☐☐ Lương+Rebecca (3) ☐☐ Nga+Rebecca (4) ☐☐

8. Animals like worms are generally of little value to nature

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

9. If given the opportunity, I would like to visit a restaurant serving wild forest animals such as muntjac

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

10. We have to experiment on animals such as mice to ensure the safety of products like cosmetics or detergents

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

11. If given the choice between conserving some rare species or utilising more land to increase Vietnam's economic growth I would choose economic growth

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

12. It is important that Vietnam protects areas of habitat which are home to threatened wild animal species

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

13. A dog trained to do a task such as guarding is generally a better animal than one owned just for companionship

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

14. I admire people who can train animals such as dolphins to do tricks

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

15. When walking in the park, I prefer to see beautiful animals such as butterflies than ugly ones such as spiders

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

16. Even though I might a feel a little scared, I would enjoy seeing a wild animal like a bear while walking in the forest

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

17. I enjoy seeing birds such as Sarus cranes but have little interest in learning about wetland ecology

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

18. On special occasions, it is nice to have meat from wild animals such as pangolin

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

19. Even though it causes them pain, it is necessary to extract bile from bears to make medicine

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

20. In order to produce more hydro-electricity it is sometimes necessary to build dams which damage the habitat of some wild animal species

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

21. Conserving wild animals is a waste of time and resources

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

22. I generally prefer wild animals that have some practical value

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

23. Capturing a wild animal strikes me as an exciting and challenging activity

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

24. My favourite animals are generally those that I find the most beautiful

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

25. I have little interest in learning about the ecology of animal communities such as monkey troops or coral reefs

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

26. I would like to try the meat from a wild forest species such as a civet

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

27. Nên cấm khai thác mật gấu vì đây là một hành động dã man

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

28. If more land is needed to maintain or boost economic growth it is sometimes necessary to clear forests or drain wetlands

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

29. The **MOST** important reason for protecting forests is because the animals there may produce medicines to prevent and cure disease

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

30. I enjoy watching fighting cocks

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

31. I would prefer to see wild animals in a zoo rather than seeing them living wild in the forest

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

32. Although I like animals, I am not particularly interested in learning about the ecological characteristics of species

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

33. Restaurants should **NOT** be permitted to serve wild forest animals such as muntjac

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

34. Harvesting animals for use in medicine, for example using macaques to produce vaccines, is fine if the animals are plentiful

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

35. I do not approve of protecting wild animals if it hurts the economic livelihood of people who make a living off the land

- ☐ Strongly agree
- ☐ Agree
- ☐ No opinion
- ☐ Disagree
- ☐ Strongly disagree

36. I would like to see wild animals like monkeys performing tricks

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

37. I would prefer to see a colourful bird such as a parrot rather than a plain bird such as a flowerpecker

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

38. I think spiders and termites should be eliminated

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

39. Urban people should not eat wild forest species such as serow

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

40. I am more interested in learning about beautiful animals like leopards and lions than about insects or worms

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

41. I am not interested in watching wild animals living in the forest

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

42. Animals like tigers and crocodiles should be kept in cages rather then left to roam in the wild

☐ Strongly agree
☐ Agree
☐ No opinion
☐ Disagree
☐ Strongly disagree

	0	1	2	3	4	5+	DK
1. In the last 12 months, on how many occasions have you visited a zoo?	☐	☐	☐	☐	☐	☐	☐
2. In the last 12 months, on how many occasions have you visited a wildlife reserve?	☐	☐	☐	☐	☐	☐	☐
3. In the last 12 months, on how many occasions have you been hunting?	☐	☐	☐	☐	☐	☐	☐
4. In the last 12 months, on how many occasions have you been fishing?	☐	☐	☐	☐	☐	☐	☐
5. In the last 12 months, on how many occasions have you read a book about wild animals?	☐	☐	☐	☐	☐	☐	☐
6. In the last 12 months, on how many occasions have you taken a photograph of wild animals?	☐	☐	☐	☐	☐	☐	☐

7. In the last 12 months, on how many occasions have you bought or eaten wild meat?

☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5+ → BOX 1** ☐ **0 → 8** ☐ Don't know **→ 8**

BOX 1:

Please list all the species you have eaten in the **last 12 months (*tick all mentioned*)**:

☐ Softshell turtle (1)	☐ Wild pig (7)	Other species – *please specify:*
☐ Civet (2)	☐ Nai (8)	.....
☐ Crocodile (3)	☐ Porcupine (9)	.....
☐ Bamboo rat (4)	☐ Snake (10)	.....
☐ Hoẵng (5)	☐ Serow (11)	.....
☐ Deer (6)	☐ Pangolin (12)	.....

On the occasions you ate wild meat **in the last 12 months**, who did you eat it with?

Occasion 1:	*Occasion 2:*	*Occasion 3:*
☐ Colleagues (1)	☐ Colleagues (1)	☐ Colleagues (1)
☐ Relatives (2)	☐ Relatives (2)	☐ Relatives (2)
☐ Friends (3)	☐ Friends (3)	☐ Friends (3)

On the occasions you ate wild meat **in the last 12 months,** where did you eat it?

(Please record place name, whether urban or rural, restaurant or private house)

Occasion 1:	*Occasion 2:*	*Occasion 3:*
.....	.....	.....
.....	.....	.....
.....	.....	.....

On the occasions you ate wild meat **in the last 12 months,** what was the occasion, if any?

Occasion 1:	*Occasion 2:*	*Occasion 3:*
.....	.....	.....
.....	.....	.....

	0	<1	2	3	4	5	6	7+	DK
14. In the **last 7 days** how many hours have you spent watching television ?									
15. In the **last 7 days** how many times have you watched the television news?									
16. In the **last 7 days** how many hours have you spent listening to the radio?									
17. On how many out of the **last 7 days** have you read a newspaper?									
18. In the **last 7 days** how many hours have you spent using the internet?									
19. In the **last 7 days** how many hours have you spent talking about wild animals with friends, family or colleagues?									

If watched – Please describe any wildlife-related programmes or adverts you have seen on TV in the **last 7 days:**

Can Describe (1) ☐ *Programme/station:*

Cannot describe (2) ☐ *Description:*

If watched – Please describe any wildlife-related news you have seen on TV in the **last 7 days:**

Can Describe (1) ☐ *Programme/station:*

Cannot describe (2) ☐ *Description:*

If listened – Please describe any wildlife-related information you heard on the radio in the **last 7 days:**

Can Describe (1) ☐ *Programme/station:*

Cannot describe (2) ☐ *Description:*

If read – Please describe any wildlife-related information you read about in newspapers in the **last 7 days:**

Can describe (1) ☐ *Newspaper:*

Cannot describe (2) ☐ *Description:*

If used – Please describe any wildlife-related information you found on the internet in the **last 7 days:**

Can describe (1) ☐ *Website:*

Cannot describe (2) ☐ *Description:*

If talked – Please describe what you talked about in the **last 7 days:**

Can describe (1) ☐ *Description:*

Cannot describe (2) ☐

8. Have you ever eaten wild meat?

☐ Yes (1) → **BOX 2** ☐ No (0) → **9** ☐ Don't know (2) → **9**

BOX 2:

Please list all the species you have eaten:

☐ Softshell turtle (1)	Approx. time:	☐ Wild pig (7)	Approx. time: .....
☐ Civet (2)	Approx. time:	☐ Muntjac (8)	Approx. time: .....
☐ Crocodile (3)	Approx. time:	☐ Porcupine (9)	Approx. time: .....
☐ Bamboo rat (4)	Approx. time	☐ Snake (10)	Approx. time: .....
☐ Sambar (5)	Approx. time:	☐ Serow (11)	Approx. time: .....
☐ Deer (6)	Approx. time:	☐ Pangolin (12)	Approx. time: .....

Other species - *please specify:* *Additional notes:*

..... Approx. time.....

..... Approx. time.....

..... Approx. time.....

9. In the last 12 months have you bought, consumed or been given a product derived from a wild animal such as ornaments or jewellery made from ivory or antlers, medicines such as bear bile or rice wine containing wild animals?

☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5+ → BOX 3** ☐ **0 → 10** ☐ Don't know **→ 10**

BOX 3:

Please describe the products you bought, consumed or were given in **the last 12 months**:

Product 1:	*Product 2:*	*Product 3:*
☐ Ornamental (1)	☐ Ornamental (1)	☐ Ornamental (1)
☐ Medicinal (2)	☐ Medicinal (2)	☐ Medicinal (2)
☐ Rice wine (3)	☐ Rice wine (3)	☐ Rice wine (3)
Species:.....	Species:.....	Species:.....
Description:.....	Description:.....	Description:.....
.....	.....	.....

Additional notes:

BOX 3 Continued:

Did you buy these products for yourself or as a gift for someone else, or were they given to you as gifts?

Product 1:	*Product 2:*	*Product 3:*
☐ Bought for personal use (1)	☐ Bought for personal use (1)	☐ Bought for personal use (1)
Bought for:	Bought for:	Bought for:
☐ Colleagues (2)	☐ Colleagues (2)	☐ Colleagues (2)
☐ Relatives (3)	☐ Relatives (3)	☐ Relatives (3)
☐ Friends (4)	☐ Friends (4)	☐ Friends (4)
Gift from:	Gift from :	Gift from:
☐ Colleagues (5)	☐ Colleagues (5)	☐ Colleagues (5)
☐ Relatives (6)	☐ Relatives (6)	☐ Relatives (6)
☐ Friends (7)	☐ Friends (7)	☐ Friends (7)

Additional notes:

10. Have you ever bought, consumed or been given a product derived from a wild animal?

☐ Yes (1) → **BOX 4** ☐ No (0) → **11** ☐ Don't know (2) → **11**

BOX 4:

Please describe these products:

Product 1:	*Product 2:*	*Product 3:*
☐ Ornamental (1)	☐ Ornamental (1)	☐ Ornamental (1)
☐ Medicinal (2)	☐ Medicinal (2)	☐ Medicinal (2)
☐ Rice wine (3)	☐ Rice wine (3)	☐ Rice wine (3)
Species:.....	Species:.....	Species:.....
Description:.....	Description:.....	Description:.....
.....	.....	.....
Approx. time:	Approx. time:.....	Approx. time:.....

11. Do you keep, breed or own any wild animals? ☐ Yes (1) ☐ No (0)

If yes – Which species?.....

12. Please tell me which government department is responsible for environmental policy:

..... ☐ Don't know

13. Please tell me which government department is responsible for enforcing wildlife-related laws:

..... ☐ Don't know

1. Please answer the following questions by yourself, do not allow others to help you:

	True	False	Don't know
A shark is a mammal	☐	☐	☐
All lizards have backbones	☐	☐	☐
All the following animals are venomous: scorpion, gecko, bat	☐	☐	☐
Caterpillars form cocoons and then emerge as butterflies	☐	☐	☐
Civets can carry SARS and bird flu	☐	☐	☐
Earthworms are important in maintaining soil fertility	☐	☐	☐
Sea stars are a type of fish	☐	☐	☐
Elephants eat small mammals such as mice	☐	☐	☐
Fish are warm-blooded	☐	☐	☐
Most mammals lay eggs	☐	☐	☐
Orang Utans are native to China	☐	☐	☐
Pangolins mainly eat ants and termites	☐	☐	☐
Rhinos lay eggs	☐	☐	☐
Earthworms catch spiders	☐	☐	☐
Slow Lorises sleep during the day	☐	☐	☐
Some bats use sonar to find their way around in the dark	☐	☐	☐
Some turtles can live longer than humans	☐	☐	☐
Many flowering plants rely on birds and bats to pollinate them	☐	☐	☐
The Giant Mekong Catfish is the largest known freshwater fish	☐	☐	☐
Tigers and leopards are types of cat	☐	☐	☐

2. Which of the following species are endangered according to Vietnamese law?

☐ King Cobra
☐ Gibbon
☐ Rhino
☐ Muntjac

3. Which of the following species naturally occur in the wild in Vietnam?

☐ Saola
☐ Giant Panda
☐ Langur
☐ Leopard

4. It is **ILLEGAL** to sell derivatives from which of the following species?

- ☐ Pangolin
- ☐ Serow
- ☐ Asian Black Bear
- ☐ Rhino

5. According to the Vietnamese government, how many elephants live in Vietnam today (**choose ONE only**)?

- ☐ Less than 150
- ☐ Around 3000
- ☐ Around 10,000
- ☐ More than 150,000

6. Which **ONE** of the following is the main role of national parks in conservation (**choose ONE only**)?

- ☐ Preventing wild animals from attacking people or livestock
- ☐ Providing timber to create income for conservation
- ☐ Providing natural habitat for endangered species
- ☐ Attracting tourists

7. Which **ONE** of the following is the **greatest** threat to wild animal species in Vietnam today (**choose ONE only**)?

- ☐ Natural hazards such as fires and floods
- ☐ Hunting for subsistence
- ☐ Harvesting to supply the illegal trade in wild animals
- ☐ Disease

8. Which **ONE** of the following best describes an endangered species (**choose ONE only**)?

- ☐ A species found only in Vietnam
- ☐ A species depleting in number because it, or it's habitat, is being over-exploited
- ☐ A dangerous species needing to be controlled
- ☐ A particularly valuable or interesting specie

9. Which of the following actions are **ILLEGAL** according to Vietnamese law?

- ☐ Keeping an endangered wild animal as a pet without a permit
- ☐ Selling ruou containing an endangered species
- ☐ Transporting an endangered species for commercial sale
- ☐ Selling medicines containing parts of an endangered species

20. What year were you born? .....

21. Where do you live? .....

22. How long have you lived in Hanoi?.....

23. Where were you born (province)?:.....

24. Would you describe your birthplace as urban or rural? ☐Urban (1) ☐Rural (2) *

* *If rural* – how far away was the nearest town?

☐ <10km (1) ☐ 11-20km (2) ☐ 21-30km (3) ☐ 31-40km (4) ☐ 41-50km (5) ☐ >50km (6)

25. What is the highest level of education you have completed?

☐ None (1)	
☐ Primary school (2)	
☐ Junior school (3)	
☐ Secondary school (4)	
☐ College (5)	Subject:.....
☐ University (6)	Subject:.....
☐ Masters / PhD (7)	Subject:.....

26. What is your main current occupation?

			Details
1	☐	**Legislator, Government Official, CEOs/Directors** E.g. Senior officials [a], heads of departments [b], corporate managers [c]	
2	☐	**Armed forces & Police**	
3	☐	**Professional** E.g. businessman/woman [a], teachers [b], lecturers [c], engineers [d], architects [e], nurses [f], lawyers [g], journalists [h], translators [i]	
4	☐	**Clerks** E.g. Desk clerks [a], secretaries [b], bank clerks [c]	
5	☐	**Service worker** E.g. shop workers [a], security guards [b], waiters [c], chefs [d]	
6	☐	**Skilled labourer** E.g. farmer [a], fisher [b], builder [c], tailor [d], mechanic [e], driver [f]	
7	☐	**Elementary occupation** E.g. rubbish collector [a], general labourer [b], cleaner [c], street seller [d], shoe cleaner [e]	
8	☐	**Unemployed / Free**	
9	☐	**Student**	
10	☐	**Housewife**	
11	☐	**Retired**	
12	☐	**Other – *Please specify*:**	

27. Please tell me which category, from 1 to 14, your personal income was in the **last month**:

28. Please tell me which category, from 1 to 14, your household income was in the **last month:**

Category		**27.** Personal income	**28.** Household income
1	< 500.000 VNĐ	☐	☐
2	500.000 – 999.000 VNĐ	☐	☐
3	1000.000 – 1499.000 VNĐ	☐	☐
4	1500.000 – 1999.000 VNĐ	☐	☐
5	2.000.000 – 2.999.000 VNĐ	☐	☐
6	3.000.000 – 3.999.000 VNĐ	☐	☐
7	4.000.000 – 4.999.000 VNĐ	☐	☐
8	5.000.000 – 5.999.000 VNĐ	☐	☐
9	6.000.000 –6.999.000 VNĐ	☐	☐
10.	7.000.000 – 7.999.000 VNĐ	☐	☐
11.	8.000.000 – 8.999.000 VNĐ	☐	☐
12.	9.000.000 – 9.999.000 VNĐ	☐	☐
13.	10.000.000 – 19.999.000 VNĐ	☐	☐
14.	> 20.000.000 VNĐ	☐	☐
16.	Don't know	☐	☐
15.	No income – *please explain*:		

29. How many people are there in your household? .....

30. Of those in your household, how many work? .....

31. Of those in your household, how many are aged over 18 years? .....

32. Gender: Male (1) ☐ Female (2) ☐

34. Ethnicity: Kinh (1) ☐ Chinese (2) ☐ *Other:* .....

THANK YOU VERY MUCH

Please ask the respondent to leave their name and address in case we need to contact them further...

Name:.....

Landline: .....

Mobile: .....

Address:.....

Xin cảm ơn bạn đã giúp chúng tôi thực hiện điều tra này...

Ngày:..... **Tháng:**.....

Phường:.....

Ba Đình (1) ☐ **Đống Đa** (2) ☐ **Hoàn Kiếm** (3) ☐ **Hai Bà Trưng** (4) ☐

☐ **Lương** (1)
☐ **Lương+Rebecca** (3)

☐ **Nga** (2)
☐ **Nga+Rebecca** (4)

☐ **Phương** (5)
☐ **Phương+Rebecca** (6)

1. Tôi ngưỡng mộ người có tài huấn luyện gà chọi

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

2. Nếu cần mở rộng đất đai để sản xuất lương thực xuất khẩu, Việt Nam cần phải phá đi môi trường sống của một số loài vật hoang dã

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

3. Việt Nam nên đầu tư vào bảo tồn động vật hoang dã

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

4. Việt Nam nên tập trung vào bảo tồn các loài hoang dã có giá trị kinh tế, sau đó mới đến bảo tồn các loài có ý nghĩa về mặt khoa học

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

5. Tôi ủng hộ việc săn bắn hươu với mục đích giải trí

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

6. Khi đến thăm một sở thú, bạn thích nhất các con vật bắt mắt như con công hoặc hổ báo

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

7. Tôi thích nhìn động vật hoang dã trên ti vi hay trong vườn thú hơn là lúc chúng có thể tự do chạy lại gần mình

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

8. Các loài như sâu thường ít có giá trị trong tự nhiên

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

9. Bạn muốn vào một nhà hàng phục vụ thịt thú rừng ví dụ như có phục vụ thịt hoẵng

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

10. Chúng ta cần phải làm thí nghiệm trên động vật, chẳng hạn như chuột, để đảm bảo độ an toàn của các sản phẩm như hóa mỹ phẩm hay chất tẩy rửa.

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

11. Nếu phải lựa chọn giữa việc bảo tồn một vài loài hiếm với việc sử dụng thêm nhiều đất để tăng trưởng kinh tế, bạn sẽ lựa chọn phát triển kinh tế

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

12. Điều quan trọng là Việt Nam cần bảo vệ môi trường sống của các loài động vật hoang dã đang bị đe dọa

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

13. Thường thì một con chó được huấn luyện để làm nhiệm vụ tốt hơn là một con chó chỉ làm bạn của con người mà thôi

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

14. Tôi ngưỡng mộ người có khả năng huấn luyện động vật, như cá heo thực hiện những trò láu cá và tinh quái

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

15. Khi đi dạo trong công viên, bạn thích ngắm các con vật đẹp như bướm hơn là các con xấu xí như nhện

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

16. Mặc dù tôi sẽ thấy hơi sợ một chút nhưng tôi vẫn thích được nhìn thấy một con thú, chẳng hạn như con gấu khi đang đi bộ trong rừng

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

17. Tôi thích nhìn ngắm chim chóc, ví dụ như loài Sếu đầu đỏ nhưng lại không mấy hứng thú tìm hiểu về vùng sinh thái đất ngập nước

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

18. Theo bạn ăn thịt thú rừng, chẳng hạn như tê tê vào những dịp đặc biệt là một ý kiến hay

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

19. Mặc dù đúng là có gây đau đớn cho loài gấu nhưng chúng ta vẫn cần lấy mật gấu để chữa bệnh

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

20. Nhằm sản xuất điện từ thủy năng, đôi khi chúng ta cũng cần phải xây dựng các đập và hồ thủy điện việc này tàn phá môi trường sống của loài động vật hoang dã

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

21. Việc bảo tồn động vật hoang dã chỉ tốn thời gian và lãng phí nguồn tài nguyên

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

22. Nhìn chung tôi vẫn thích các loài thú rừng có giá trị sử dụng hơn

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

23. Bắt sống các loài hoang dã là một hoạt động thú vị và thử thách

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

24. Đối với tôi, nói chung thì những con vật yêu thích cũng là những con mà tôi thấy đẹp nhất

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

25. Tôi **KHÔNG** thích học về đặc điểm sinh thái của quần xã động vật, ví dụ như của bầy khỉ hay các rạn san hô.

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

26. Bạn muốn nếm thử một món thịt thú rừng nào đó, như thịt cầy chẳng hạn

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

27. Nên cấm khai thác mật gấu vì đây là một hành động dã man

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

28. Trong trường hợp cần mở rộng đất đai để duy trì hay tăng trưởng kinh tế, đôi khi cũng cần chặt phá rừng hay tháo nước đầm lầy

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

29. Lý do quan trọng **NHẤT** phải bảo vệ rừng là vì những động vật sống ở đó có thể cung cấp dược phẩm ngăn ngừa và chữa trị bệnh

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

30. Tôi thích xem trò chọi gà

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

31. Tôi thích nhìn động vật hoang dã trong vườn thú hơn là việc chứng kiến cuộc sống hoang dã của chúng trong rừng rậm.

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

32. Mặc dù tôi thích động vật nhưng tôi lại không thích tìm hiểu cụ thể về đặc điểm sinh thái của các loài.

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

33. **KHÔNG** nên cho phép các nhà hàng, khách sạn phục vụ thịt thú rừng, ví dụ như hoẵng

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

34. Nếu động vật còn nhiều thì cũng nên ủng hộ khai thác chúng làm dược phẩm chữa bệnh, chẳng hạn như việc giết khỉ để chế tạo vắc-xin

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

35. Bạn **KHÔNG** ủng hộ việc bảo vệ loài vật hoang dã nếu nó ảnh hưởng xấu đến hoạt động sản xuất của người dân

- ☐ Hoàn toàn đồng ý
- ☐ Đồng ý
- ☐ Không có ý kiến
- ☐ Không đồng ý
- ☐ Hoàn toàn không đồng ý

36. Tôi thích nhìn động vật hoang dã như khỉ biểu diễn các trò chơi

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

37. Tôi thích ngắm nghía một con chim trông sặc sỡ như kiểu chim công và vẹt hơn những con trông đơn điệu như chim sâu hay chim sẻ

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

38. Bạn nghĩ nhện, mối thì cần bị loại bỏ

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

39. Người dân đô thị không nên ăn thịt thú rừng, ví dụ như sơn dương

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

40. Tôi thích tìm hiểu về những loài trông đẹp và đầy sức mạnh như hổ, báo hơn là học về mấy loài côn trùng và sâu bọ

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

41. Bạn không hứng thú với việc nhìn ngắm động vật hoang dã trong rừng (NT/D)

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

42. Đối với động vật như hổ hay cá sấu, tốt nhất là nhốt chúng vào lồng còn hơn là để chúng đi lại tự do ngoài môi trường sống tự nhiên của chúng

☐ Hoàn toàn đồng ý
☐ Đồng ý
☐ Không có ý kiến
☐ Không đồng ý
☐ Hoàn toàn không đồng ý

	0	1	2	3	4	5+	KB
1. Trong vòng 12 tháng qua, đã có mấy lần anh/chị thăm vườn bách thú?	☐	☐	☐	☐	☐	☐	☐
2. Trong vòng 12 tháng qua, đã có mấy lần anh/chị thăm khu bảo tồn động vật hoang dã?	☐	☐	☐	☐	☐	☐	☐
3. Trong vòng 12 tháng qua, đã có mấy lần anh/chị đi săn?	☐	☐	☐	☐	☐	☐	☐
4. Trong vòng 12 tháng qua, đã có mấy lần anh/chị đi câu cá?	☐	☐	☐	☐	☐	☐	☐
5. Trong vòng 12 tháng qua, đã có mấy lần anh/chị đọc sách về các động vật hoang dã?	☐	☐	☐	☐	☐	☐	☐
6. Trong vòng 12 tháng qua, đã có mấy lần anh/chị chụp ảnh các động vật hoang dã?	☐	☐	☐	☐	☐	☐	☐

7. Trong vòng **12 tháng qua**, đã có mấy lần anh/chị mua hoặc ăn thịt thú rừng?

☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5+ → Ô SỐ 1** ☐ **0 → 8** ☐ Không biết **→ 8**

Ô SỐ 1:

Xin hãy vui lòng đánh dấu vào tên các loài mà các anh chị đã ăn **trong vòng 12 tháng qua:**

☐ Ba ba (1)
☐ Cầy hương (2)
☐ Cá sấu (3)
☐ Dũi (4)
☐ Hoẵng (5)
☐ Hươu (6)
☐ Lợn rừng (7)
☐ Nai (8)
☐ Nhím (9)
☐ Rắn (10)
☐ Sơn dương (11)
☐ Tê tê (12)

Loài khác_ *xin viết rõ:*
.....
.....
.....
.....
.....

Trong vòng 12 tháng qua, khi bạn đã ăn thịt thú rừng vật hoang dã thì bạn đã ăn với ai?

Lần 1:	*Lần 2:*	*Lần 3:*
☐ Đồng nghiệp (1)	☐ Đồng nghiệp (1)	☐ Đồng nghiệp (1)
☐ Người thân (2)	☐ Người thân (2)	☐ Người thân (2)
☐ Bạn bè (3)	☐ Bạn bè (3)	☐ Bạn bè (3)

Trong vòng 12 tháng qua, bạn đã ăn thịt thú rừng vật hoang dã ấy ở đâu?

(Xin hãy ghi lại: tên tỉnh; thành phố (tên thành phố, thị trấn) hay nông thôn; nhà hàng/ nhà riêng/ khác)

Lần 1:	*Lần 2:*	*Lần 3:*
.....	.....	.....
.....	.....	.....
.....	.....	.....

Trong vòng 12 tháng qua Bạn đã ăn nó vào dịp nào?

Lần 1:	*Lần 2:*	*Lần 3:*
.....	.....	.....
.....	.....	.....

8. Đã bao giờ ăn hoặc mua thịt thú rừng chưa?

☐ Rồi [1] → **Ô SỐ 2** ☐ Chưa [0] → **9** ☐ Không biết [2] → **9**

Ô SỐ 2:

Xin hãy vui đánh dấu vào tên các anh chị đã ăn:

☐ Ba ba [1]	Xấp xỉ năm:	☐ Lợn rừng [7]	Xấp xỉ năm: .....
☐ Cầy hương [2]	Xấp xỉ năm:	☐ Nai [8]	Xấp xỉ năm: .....
☐ Cá sấu [3]	Xấp xỉ năm:	☐ Nhím [9]	Xấp xỉ năm: .....
☐ Dũi [4]	Xấp xỉ năm.....	☐ Rắn [10]	Xấp xỉ năm: .....
☐ Hoẵng [5]	Xấp xỉ năm:	☐ Sơn dương [11]	Xấp xỉ năm: .....
☐ Hươu [6]	Xấp xỉ năm:	☐ Tê tê [12]	Xấp xỉ năm: .....

Loài khác - *xin viết rõ:* *Các chú ý khác:*

..... Xấp xỉ năm.....

..... Xấp xỉ năm.....

..... Xấp xỉ năm.....

9. Trong Vòng **12 tháng qua** đã có mấy lần anh/chị mua, tiêu thụ hoặc được tặng một sản phẩm có nguồn gốc từ động vật hoang dã, ví dụ: đồ trang trí, trang sức làm từ ngà voi hoặc sừng hươu, các loại thuốc như mật gấu hay rượu ngâm các loại động vật hoang dã?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+ → **Ô SỐ 3** ☐ **0 → 10** ☐ Không biết → **10**

Ô SỐ 3:

Xin anh/chị vui long miêu tả về sản phẩm đó bao gồm tên các loài mà sản phẩm đó được làm từ **trong vòng 12 tháng qua:**

Món hàng 1:	*Món hàng 2:*	*Món hàng 3:*
☐ Sản phẩm trang trí [1]	☐ Sản phẩm trang trí [1]	☐ Sản phẩm trang trí [1]
☐ Sản phẩm phục vụ sức khỏe [2]	☐ Sản phẩm phục vụ sức khỏe [2]	☐ Sản phẩm phục vụ sức khỏe [2]
☐ Rượu [3]	☐ Rượu [3]	☐ Rượu [3]
Loài:.....	Loài:.....	Loài:.....
Mô tả món đồ đó.....	Mô tả món đồ đó.....	Mô tả món đồ.....
.....	.....	.....

Các chú ý khác:

Tiếp Ô SỐ 3:

Trong vòng 12 tháng qua, anh/chị mua sản phẩm cho riêng mình hay để tặng cho một người khác, hay là anh chị được tặng?

Món hàng 1:	*Món hàng 2:*	*Món hàng 3:*
☐ Mua cho riêng mình [1]	☐ Mua cho riêng mình [1]	☐ Mua cho riêng mình [1]
Quà tặng cho:	Quà tặng cho:	Quà tặng cho:
☐ Đồng nghiệp [2]	☐ Đồng nghiệp [2]	☐ Đồng nghiệp [2]
☐ Người thân [3]	☐ Người thân s [3]	☐ Người thân [3]
☐ Bạn bè [4]	☐ Bạn bè [4]	☐ Bạn bè [4]
Quà nhận từ:	Quà nhận từ:	Quà nhận từ:
☐ Đồng nghiệp [5]	☐ Đồng nghiệp [5]	☐ Đồng nghiệp [5]
☐ Người thân [6]	☐ Người thân [6]	☐ Người thân [6]
☐ Bạn bè [7]	☐ Bạn bè [7]	☐ Bạn bè [7]

Các chú ý khác:

10. Đã bao giờ mua, tiêu thú hoạc được tặng một sản phẩm có nguồn gốc từ động vật hoang dã chưa?

☐ Rồi [1] → **BOX 4** ☐ Chưa [0] → **11** ☐ Không biết [2] → **11**

Ô SỐ 4:

Xin anh/chị vui long tả về sản phẩm đó bao gồm tên các loài mà sản phẩm đó được làm từ:

Món hàng 1:	*Món hàng 2:*	*Món hàng 3:*
☐ Sản phẩm trang trí [1]	☐ Sản phẩm trang trí [1]	☐ Sản phẩm trang trí [1]
☐ Sản phẩm phục vụ sức khỏe [2]	☐ Sản phẩm phục vụ sức khỏe [2]	☐ Sản phẩm phục vụ sức khỏe [2]
☐ Rượu [3]	☐ Rượu [3]	☐ Rượu [3]
Loài:.....	Loài:.....	Loài:.....
Mô tả món đồ đó.....	Mô tả món đồ đó.....	Mô tả món đồ.....
.....	.....	.....
Xấp xỉ năm:	Xấp xỉ năm:.....	Xấp xỉ năm:.....

11. Anh/chị có sở hữu hay nuôi loài động vật hoag dã nào không? ☐ Có [1] ☐ Không [0]

Nếu có?.....

12. Xin hãy vui long cho biết cơ quan chính phủ nào chịu trách nhiệm về các chính sách môi trường:

..... ☐ Không biết

13. Xin hãy vui long cho biết cơ quan chính phủ nào chịu trách nhiệm thi hành các luật lien quan đến động vật hoang dã: ..... ☐ Không biết

1. **Xin hãy lựa chọn đáp án mà bạn cho là phù hợp nhất (đánh dấu vào ô vuông). Làm ơn tự hoàn thành các câu hỏi, đừng cho phép người khác giúp bạn trả lời:**

	Đúng	Sai	Không biết
Cá mập là một loài động vật có vú	☐	☐	☐
Thằn lằn là loài có xương sống	☐	☐	☐
Tất cả những loài sau đều có nọc độc: bọ cạp, tắc kè, dơi	☐	☐	☐
Sâu róm làm kén rồi biến thành bướm	☐	☐	☐
Cây hương mang vi rut SARs và cúm gia cầm	☐	☐	☐
Giun đất có vai trò quan trọng trong việc duy trì độ phì nhiêu của đất	☐	☐	☐
Sao biển là một loài cá	☐	☐	☐
Vòi ăn các loài động vật có vú nhỏ như là chuột	☐	☐	☐
Cá là loài máu nóng	☐	☐	☐
Phần lớn động vật có vú đẻ trứng	☐	☐	☐
Đười ươi là loài bản xứ của Trung Quốc	☐	☐	☐
Tê tê ăn kiến và mối	☐	☐	☐
Tê giác đẻ trứng	☐	☐	☐
Giun đất bắt nhện	☐	☐	☐
Con Culi ngủ ban ngày	☐	☐	☐
Một số loài dơi dung siêu âm để định vị trong bóng tối	☐	☐	☐
Một vài con rùa có thể sống lâu hơn người	☐	☐	☐
Rất nhiều loài cây có hoa dựa vào côn trùng để thụ phấn	☐	☐	☐
Cá Ba Sa không lồ ở sông Mê Kông là loài cá nước ngọt lớn nhất được biết đến	☐	☐	☐
Hổ và báo thuộc họ mèo	☐	☐	☐

2. Theo luật Việt Nam thì loài nào sau đây là loài đang bị đe doạ?

☐ Rắn hổ mang chúa
☐ Vượn
☐ Tê giác
☐ Hoẵng

3. Loài nào sau đây là loài sống trong môi trường hoang dã Việt Nam?

☐ Saola
☐ Gấu trúc
☐ Voọc
☐ Báo

	0	<1	2	3	4	5	6	7+	KB
14. Trong vòng **7 ngày qua**, xin vui lòng cho biết anh/ chị đã xem truyền hình **bao nhiêu giờ?**									
15. Trong vòng **7 ngày qua**, xin vui lòng cho biết anh/ chị đã xem thời sự **mấy lần?**									
16. Trong vòng **7 ngày qua,** xin vui lòng cho biết anh/ chị đã nghe đài **bao nhiêu giờ?**									
17. Trong vòng **7 ngày qua** , xin hãy vui lòng cho biết anh chị đã đọc báo **mấy ngày?**									
18. Trong vòng **7 ngày qua**, xin vui lòng cho biết anh/ chị đã truy cập Internet **bao nhiêu giờ?**									
19. Trong vòng **7 ngày qua** xin hãy vui lòng cho biết anh/chị đã nói chuyện với bạn bè, gia đình hay đồng nghiệp về các vấn đề liên quan đến động vật hoang dã **bao nhiêu giờ?**									

Nếu đã xem – Xin hãy vui lòng miêu tả các chương trình/ quảng cáo có liên quan đến động vật hoang dã anh chị xem trên tivi trong vòng **7 ngày qua:**
Có thể miêu tả [1] ☐ *Chương trình và kênh:*
Không thể miêu tả [2] ☐ *Chi tiết:*

Nếu đã xem – Xin hãy vui lòng miêu tả các tin tức liên quan đến động vật hoang dã mà anh chị xem trên tivi trong vòng **7 ngày qua:**
Có thể miêu tả [1] ☐ *Chương trình thời sự / kênh:*
Không thể miêu tả [2] ☐ *Chi tiết:*

Nếu đã nghe – Xin hãy vui lòng miêu tả các chương trình/ quảng cáo liên quan đến động vật hoang dã mà anh chị đã nghe trên đài trong vòng **7 ngày qua:**
Có thể miêu tả [1] ☐ *Chương trình và kênh:*
Không thể miêu tả [2] ☐ *Chi tiết:*

Nếu đã đọc – Xin hãy vui lòng miêu tả các bài báo/ quảng cáo mà anh/chị đã đọc trong vòng **7 ngày qua:**
Có thể miêu tả [1] ☐ *Tạp chí/báo:*
Không thể miêu tả [2] ☐ *Chi tiết:*

Nếu đã sử dụng – Xin hãy vui lòng miêu tả thông tin liên quan đến động vật hoang dã mà anh/ chị đã xem trên mạng Internet trong vòng **7 ngày qua:**
Có thể miêu tả [1] ☐ *Trang web:*
Không thể miêu tả [2] ☐ *Chi tiết:*

Nếu đã thảo luận – Xin hãy vui lòng miêu tả các chủ đề liên quan đến động vật hoang dã mà anh/ chị đã thảo luận trong vòng **7 ngày qua:**
Có thể miêu tả [1] ☐ *Chi tiết:*
Không thể miêu tả [2] ☐

4. Việc Khai Thác sản phẩm từ loài nào sau đây là không hợp phàp ở Việt Nam?

☐ Tê Tê
☐ Sơn dương
☐ Gấu ngựa
☐ Tê giác

5. Theo Chính phủ Việt Nam, số lượng voi còn sống ở Việt Nam?

☐ Ít hơn 150
☐ Khoảng 3000
☐ Khoảng 10,000
☐ Hơn 150,000

6. Đâu là trỏ chính của vườn quốc gia với hoạt động bảo tồn (**chỉ chọn một**)?

☐ Bảo vệ động vật hoang dã khỏi sự tấn công của con người hoặc gia súc
☐ Cung cấp gỗ nhằm tạo ra nguồn quỹ cho bảo tồn
☐ Tạo môi trường sống tự nhiên ho các loài động vật nguy cấp
☐ Thu hút khách du lịch

7. Nguyên nhân nào gây ra mối đe doạ **lớn nhất** đối với động vật hoang dã của Việt Nam (**chỉ chọn một**)?

☐ Tại biến thiên nhiên, ví dụ cháy rừng và lũ lụt
☐ Săn bắn để tồn tại
☐ Khai thác, buôn bán động vật hoang dã
☐ Bệnh dịch

8. Câu nào dưới đây định nghĩa đúng nhất về loài bị đe doạ (**chỉ chọn một**)?

☐ Loài chỉ được tìm thấy ở Việt Nam
☐ Loài bị suy giảm nghiêm trong về số lượng do bị khai thác quá mức hoặc môi trường sống bị tác động mạnh bởi hoạt động của con người
☐ Một loài nguy hiểm cần được quản lý, kiểm soát
☐ Loài có một giá tri. Nhất định nào đó

9. Hành động nào sau đây là **không** hợp pháp theo luật Việt Nam?

☐ Nuôi giữ vật nuôi là động vật hoang dã mà không có sự cho phẹp của nhà nước
☐ Bán rượu ngâm các loài động vật nguy cấp
☐ Vận chuyển các loài nhuy cấp vì mục đích thương mại
☐ Bán thuốc làm từ các các bộ phận của một loài động vật rừng nguy cấp

20. Anh/ chị sinh năm nào? .....

21. Anh / chị sống ở đâu (quận/tỉnh)?.....

22. Anh / chị đã sống ở Hà Nội bao lâu?.....

23. Anh / chị sinh ở đâu (tỉnh)?:.....

24. Nơi sinh của anh/chị là thành thị hay nông thôn? ☐ Thành thị [1] ☐ Nông thôn [2] *

** Nếu là nông thôn* – cách trung tâm thành thị bao nhiêu cây số?

☐ <10km [1] ☐ 11-20km [2] ☐ 21-30km [3] ☐ 31-40km [4] ☐ 41-50km [5] ☐ >50km [6]

25. Trình độ học vấn cao nhất mà anh/ chị đã đạt được?

☐ Không [1]	
☐ Tiểu học [2]	
☐ Trung học cơ sở [3]	
☐ Phổ thông trung học [4]	
☐ Cao đẳng [5]	Ngành:.....
☐ Đại học [6]	Ngành:.....
☐ Thạc sĩ / tiến sĩ [7]	Ngành:.....

26. Nghề nghiệp chính của anh/ chị là gì?

1	☐	**Quan chức chính phủ, cơ quan lập pháp, Giám đốc điều hành**. Ví dụ: Quan chức cấp cao [a], lãnh đạo các bộ [b], quản lí các công ty [c]	
2	☐	**Lực lượng vũ trang và công an**	
3	☐	**Công chức** Ví dụ: doanh nhân [a], giáo viên [b], giảng viên [c], kỹ sư [d], kiến trúc sư [e], y tá [f], luật sư [g], nhà báo [h], phiên dịch [i]	
4	☐	**Thư kí** Ví dụ. giúp việc trong khách sạn [a], thư kí [b], thư kí ngân hàng [c]	
5	☐	**Công nhân trong ngành dịch vụ** Ví dụ: người bán hàng [a], bảo vệ [b], bồi bàn [c], đầu bếp [d]	
6	☐	**Lao động có tay nghề** Ví dụ: nông dân [a], ngư dân [b], thợ xây dựng [c], thợ may [d], thợ máy [e], lái xe [f]	
7	☐	**Lao động chân tay** Ví dụ: nhân viên thu gom rác [a], người quét dọn [b], bán hàng rong [c], đánh giày [d], lau nhà vệ sinh [e]	
8	☐	**Thất nghiệp**	
9	☐	**Sinh viên**	
10	☐	**Nội trợ**	
11	☐	**Nghỉ hưu**	
12	☐	**Ý kiến khác:**	

27. Xin hãy vui lòng cho biết trong khoảng loại nào , từ 1 đến 14, là thu nhập **tháng trước** của anh chị:

28. Xin hãy vui lòng cho biết trong khoảng loại nào , từ 1 đến 14, là tổng thu nhập **tháng trước** của anh chị và gia đình

Loại		**27.** Thu nhập cá nhân	**28.** Thu nhập gia đình
1	< 500.000 VNĐ	☐	☐
2	500.000 – 999.000 VNĐ	☐	☐
3	1000.000 – 1499.000 VNĐ	☐	☐
4	1500.000 – 1999.000 VNĐ	☐	☐
5	2.000.000 – 2.999.000 VNĐ	☐	☐
6	3.000.000 – 3.999.000 VNĐ	☐	☐
7	4.000.000 – 4.999.000 VNĐ	☐	☐
8	5.000.000 – 5.999.000 VNĐ	☐	☐
9	6.000.000 –6.999.000 VNĐ	☐	☐
10.	7.000.000 – 7.999.000 VNĐ	☐	☐
11.	8.000.000 – 8.999.000 VNĐ	☐	☐
12.	9.000.000 – 9.999.000 VNĐ	☐	☐
13.	10.000.000 – 19.999.000 VNĐ	☐	☐
14.	> 20.000.000 VNĐ	☐	☐
16.	Không biết	☐	☐
15.	Không thích hợp – *xin hãy nói rõ vì sao*:		

29. Có bao nhiêu người trong hộ gia đình anh/ chị?.....

30. Trong gia đình có mấy người còn đang làm việc? .....

31. Có bao nhiêu người trên 18 tuổi?.....

32. Giới tính: Nam (1) ☐ Nữ (2) ☐

34. Dân tộc: Kinh (1) ☐ Hoa (2) ☐ *Khác:* .....

XIN CÁM ƠN ANH/ CHỊ

Xin hỏi mỗi người tham về tên của họ và những chi tiết tiếp xúc, bởi vì bạn có thể (thì) quan tâm đến việc nói chuyện với họ xa hơn nữa. Xin hãy nói rõ với họ là thông tin này sẽ được giữ kín.

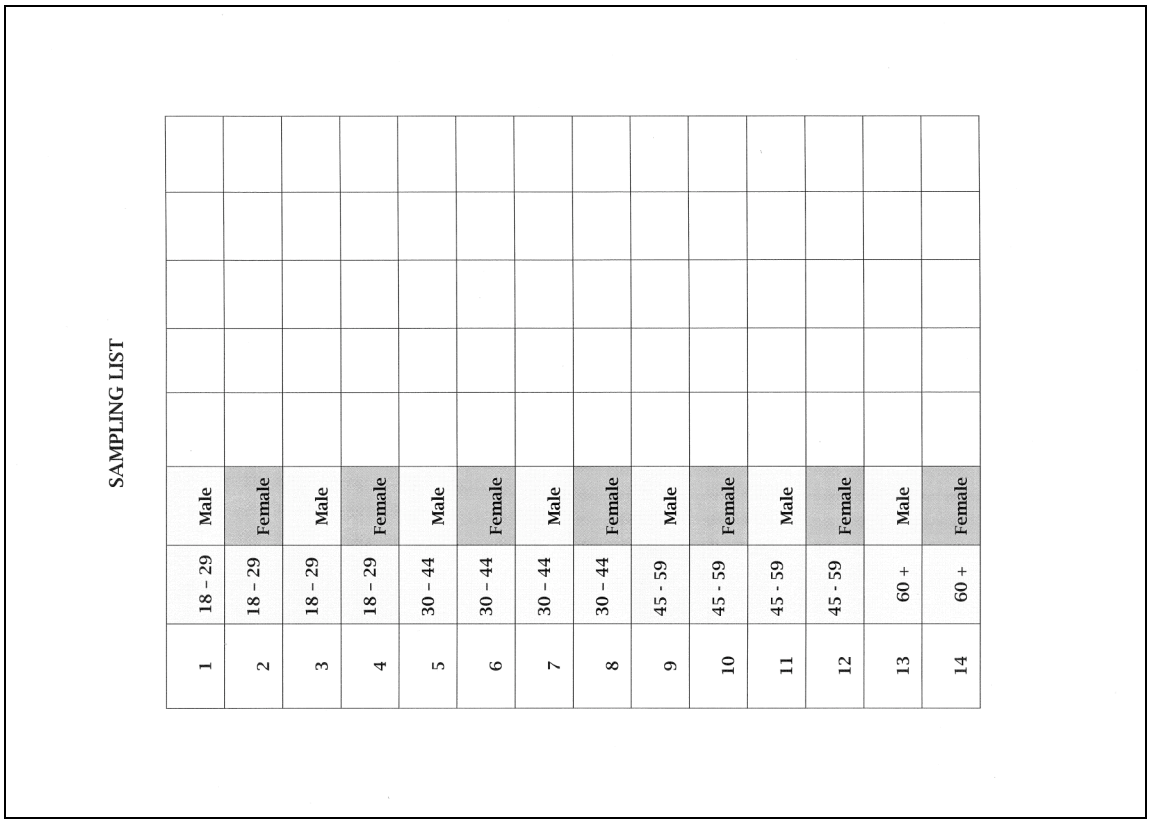
Tên:.....

Số điện thoại nhà: .....

Số di động: .....

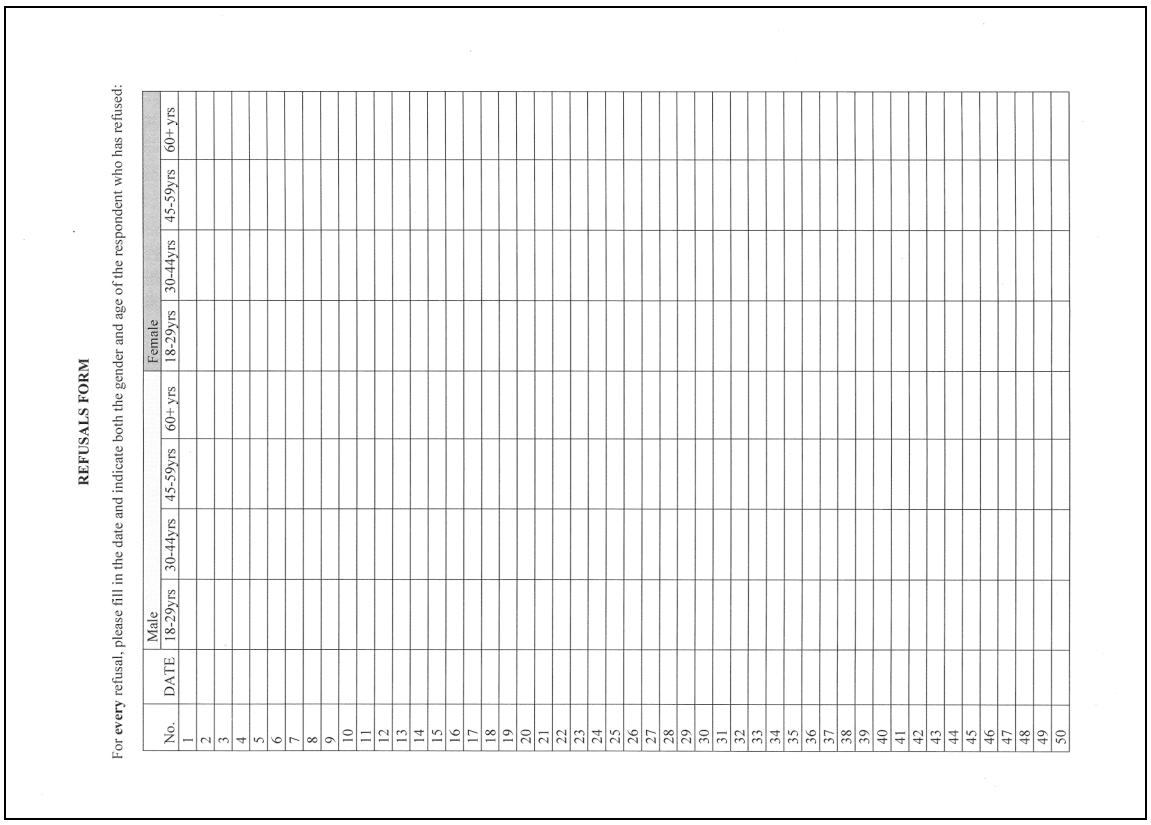
Địa chỉ liên lạc:.....

Appendix B. Sampling List and Refusals Form



SAMPLING LIST

1	18 – 29	Male					
2	18 – 29	Female					
3	18 – 29	Male					
4	18 – 29	Female					
5	30 – 44	Male					
6	30 – 44	Female					
7	30 – 44	Male					
8	30 – 44	Female					
9	45 - 59	Male					
10	45 - 59	Female					
11	45 - 59	Male					
12	45 - 59	Female					
13	60 +	Male					
14	60 +	Female					



REFUSALS FORM

For **every** refusal, please fill in the date and indicate both the gender and age of the respondent who has refused:

No.	DATE	Male				Female			
		18-29yrs	30-44yrs	45-59yrs	60+ yrs	18-29yrs	30-44yrs	45-59yrs	60+ yrs
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									

Appendix C. Interviewer Effects

C.1. Introduction

Though collected as carefully as possible, data are inevitably influenced by inaccuracies and biases introduced by the interviewers and their recording of information. The following aims to assess the impact of any such interviewer effects and any implications arising from them.

C.2. Methods

Three Research Assistants (RAs) complete the questionnaire survey: RA1 completed 51.9%, RA2 34.4, and RA3 13.9% questionnaires[1]. Binomial logistic regression[2] is used to analyse differences in the characteristics of the respondents accessed and/or recorded by each RA; RA1 is used as the reference group in both analyses due to having the largest sample size. The occupation category armed forces/police is excluded from the second analysis due to small sample size (n=4).

C.3. Results

Significant differences exist between the proportion of respondents reporting consumption of wild meat ($\chi2=16.25[2]$, $p<.00$) and a wild animal product other than wild meat ($\chi2=21.02[2]$, $p<.00$) according to the interviewer with whom the questionnaire was completed (Figure C.1). Moreover, significantly more respondents reported eating wild meat ($\chi2=5.29[1]$, $p<.05$) and wild animal products other than wild meat ($\chi2=6.750[1]$, $p<.00$) when I was also present when the data was collected than when I was not. However, when these differences are analysed for each RA individually, no significant differences in either the proportions reporting consumption of either wild meat or another wild animal product are found for RA1 or RA3 but only for data collected by RA2 (wild meat: $\chi2=8.94$ [1], $p<.01$; wild animal product other than wild meat: $\chi2=17.17$ [1], $p<.00$). This suggests that, although my presence does seem to increase the likelihood of a respondent to report wild animal consumption overall, RA3 is primarily the significant difference between the proportion of reporting consumption according to my presence (Figure C.2).

[1] Data showing which RA completed the questionnaire is missing for 0.2% of the sample.
[2] Multinomial regression was limited by small sample sizes in occupation groups.

Figure C.1. Percentage of respondents (n=915) who reported consumption of wild meat and other wild animal products according to Research Assistant

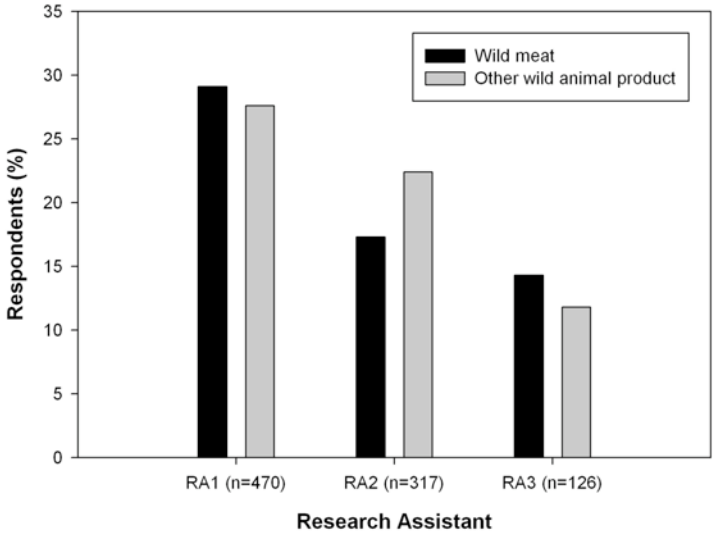


Figure C.2. Percentage of respondents (n=915) who reported consumption of wild meat and other wild animal products according to Research Assistant and whether or not I was also present at the time the questionnaire was completed.

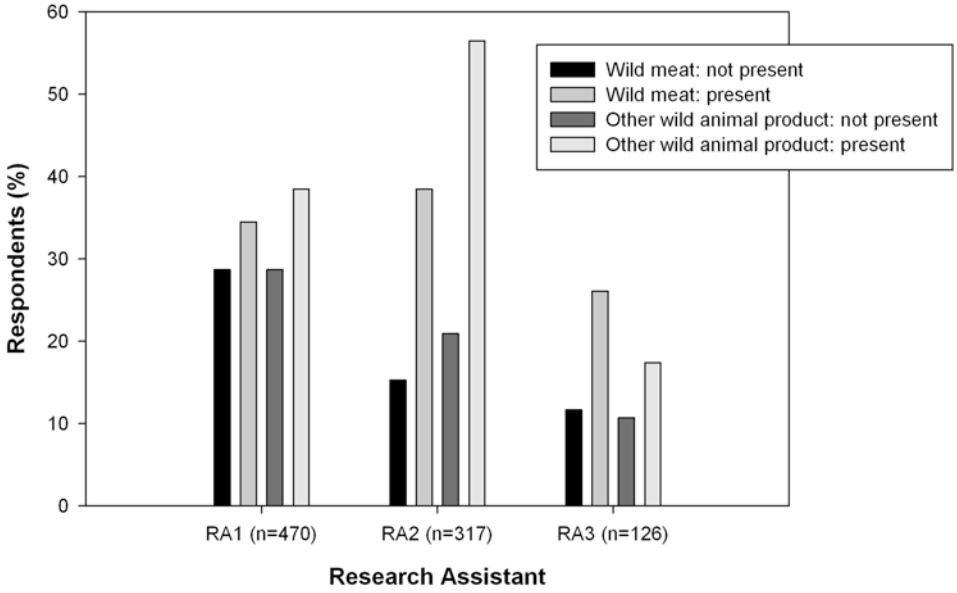


Table C.2 Logistic regression showing the effects of the research assistant collecting data on the characteristics of respondents in the survey sample (n=915).

Predictor variables		**a). RA 1 versus RA 2**			**b). RA 1 versus RA 3**		
		B(SE)	**Sig.**	**Exp(B)**	**B(SE)**	**Sig.**	**Exp(B)**
Age (Years)		0.02 (0.01)	.01*	1.02	0.00 (0.01)	.89	1.001
Family income (reference: Lowest-earning quartile)	Non-responses	0.85 (0.23)	.00**	2.34	0.59 (0.31)	.06	1.80
	Second lowest-earning quartile	0.05 (0.29)	.87	1.05	-0.31 (0.41)	.44	0.73
	Second highest-earning quartile	-0.39 (0.29)	.18	0.68	-0.61 (0.40)	.12	0.54
	Highest-earning quartile	-1.55 (0.35)	.00**	0.21	-0.87 (0.42)	.04*	0.42
Occupation (reference: service workers)	Armed Forces & Police	-1.16 (1.26)	.36	7.14			
	Business people	1.05 (0.44)	.02*	3.39	-1.51 (1.09)	.17	0.22
	Non-finance Professionals	-0.67 (0.43)	.12	0.51	-0.31 (0.51)	.54	0.73
	Finance professionals	0.25 (0.53)	.65	1.28	0-51 (0.82)	.53	0.60
	Clerks	-0.29 (0.64)	.65	0.75	-0.52 (0.85)	.54	0.59
	Skilled Workers	0.53 (0.25)	.03*	1.70	-0.85 (0.42)	.05	0.43
	Unskilled workers	1.20 (0.35)	.00**	3.33	-0.02 (0.60)	.97	0.98
	Unemployed	0.08 (0.59)	.90	1.08	-1.08 (1.10)	.33	0.34
	Students	-0.39 (0.54)	.47	0.68	0.80 (0.49)	.11	2.22
	Housework/Care	-0.98 (0.67)	.14	0.38	0.29 (0.56)	.60	1.34
	Retired	-0.43 (0.30)	.14	0.65	0.13 (0.38)	.72	1.14
Sex (reference: women)		-0.15 (0.18)	.40	0.86	0.09 (0.23)	.68	1.10
Education		0.46 (0.10)	.00**	1.58	0.33 (0.12)	.01*	1.39
Constant		-3.05 (0.53)	.00**	0.05	-2.62 (0.69)	.00**	.073

a) Model $\chi^2(18) = 121.84$ p<.000. R^2 .53 (Hosmer & Lemeshow), .15 (Cox & Snell), .20 (Nagelkerke); b) Model $\chi^2(19) = 44.83$ p<.001. R^2 .77 (Hosmer & Lemeshow), .08 (Cox & Snell), .12 (Nagelkerke). **p<.001, **p<.00

In addition, RA2 is significantly more likely to have accessed/recorded respondents as unskilled workers (p<.00), skilled workers (p<.05) and businesspeople (p<.05), older respondents (p<.05) and respondents with higher levels of education (p<.00), she is also significantly more likely to have missing data for family income (p<.00) and less likely to access/record respondents in the highest family income quartile (p<.00) compared to RA1 (Table C.1). RA also recorded/accessed significantly fewer respondents in the highest family income quartile (p<.00) and more respondents in higher education groups (p<.05) compared to RA1 (Table C.1). Because RA2 was the least diligent of the three, I suggest that these differences arise from RA2 following the sampling method less strictly than RA1, i.e. asking those available at the time rather than making appointments to return later and/or not asking every third 'household' but choosing those perhaps more convenient and/or available (see Chapter 3 for details of sampling method). This would explain her significantly higher proportion of unskilled workers, i.e. relatively accessible street sellers, in particular.

Moreover, both RA3 and RA2s' bias towards those more educated also suggests that they were drawn to those of comparable education to interview rather than the individual the most honest application of the sampling method may have identified. RA2's propensity for missing data regarding family income compared to RA3 also reflects the differences in their approach: while RA1 patiently and skilfully made the questionnaire into a relaxed conversation with the respondent and had a genuine interest in the work, RA3 - though confident and charismatic - was more likely to rush the respondent and miss data. And finally, though diligent, RA3 was younger and much less confident, which is perhaps why she failed to access the higher income groups to the same extent as RA1.

C.3. Implications

Given the more conscientious approach to sampling and data collection demonstrated by RA2 I would suggest that her data is also the most accurate. Since RA2 recorded the highest proportion of respondents reporting consumption of wild animal products in the last twelve months this suggests that,

had RA2 followed the sampling method more strictly, the overall scale of consumption would have in fact been higher. Because income is significantly positively related to consumption of wild meat (Chapter 5), it is likely that the fact that RA2 and RA3 failed to access the highest income groups is partly responsible for the lower proportions of consumers recorded.

Appendix D. Legislation Regarding Wildlife Exploitation in Vietnam

List of national legislation as reported by Venkataraman (2007):

1. Decree No. 18/1992/HDBT-CP dated 17 January 1992 issued by Council of Ministers stipulating on list of wild fauna and flora in danger and management and protection mechanism.
2. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) signed by Vietnam in 1994.
3. Decree No. 11/2002/ND-CP dated 22 January 2002 on managing wildlife importation, exportation and transition.
4. Decree No. 48/2002/ND-CP dated 22 April 2002 on amending and supplementing list of wild fauna and flora in danger.
5. Decree No. 139/2004/ND-CP dated 25 June 2004 on settlement of administration violation on forest protection and management
6. Decision No. 12/2003/CT-TTg dated 16 May 2003 regarding urgent measures towards the protection and development of forests
7. Instruction No. 395/TTg dated 29 May 1996 on urgent measures for wildlife protection and development
8. The Penal Code of the Socialist Republic of Vietnam, (2000) Vietnam Law & Legal Forum.
9. Law on Environmental Protection (1993) from the National Assembly of the Socialist Republic of Vietnam, IX Legislature, 4th Session (06 to 30 December 1993).
10. National Biodiversity Strategy and Action Plan (NBSAP), approved under Decision No. 845/1995/TTg dated 22 December 1995.

The following species are those protected under National Decrees 18 and 48 as reported by Venkataraman (2007). Group IB lists species that are classed as in danger of extinction and of which exploitation is prohibited. Group IIB lists species considered excessively exploited; their use is restricted to breeding and scientific purposes with special permission.

Group IB species

Pangolins (*Manis spp*.)

Cats (*Felis spp*.:all wild species)

Elephants (*Elaphas maximus)*

Tigers (*Panthera tigris)*

Hawsbill turtles (*Eretmochelys imbricata*)

Leopards (*Panthera pardus*)

Peacocks (*Polyplectron spp.)*

Rhinos (*Rhinoceros sondaicusi annammiticus*)

Crocodiles (*Crocodylus porosus*: saltwater crocodile; *Crocodylus siamensis*: Siamese Crocodile)

Bears (*Selenarctos thibetanus*: Asiatic black bear; *Helarctos malayanus*: sun bear)

Deer (*Moschus berezovki*: Chinese forest musk deer; *Cervus porcinus*: hog deer; *Megamuntiacus vuquangensis*: Giant muntjac; *Caninmuntiacus truongsonensis*: Truong Son muntjac)

Rat snakes (*Elaphe radiate*: copperhead rat snake; *Ptyas mucosus*: mucous rat snake)

Snakes (besides rat snakes, the only snake listed under IB is *Ophiophagus hannah*: king cobra)

Turtles (*Dermochelis coriacea*: leatherback turtle; *Chelonia mydas*: green sea turtle; *Pelochelis bibronii*: Asian giant soft-shelled turtle; *Cuora trifasciata*: Chinese three-striped box turtle)

Group IIB Species

Macaques (*Macaca spp*.)

Snakes (*Naja naja*: common cobra; *Bungarus spp*.: kraits; *Trimerusurus spp.*: vipers)

Pythons (*Python spp*.)

Monitor lizards (*Varanus spp.*)

Deer (*Tragullus spp*.)

Civets (*Viverra spp*.: civets; *Chrotogale owstonii*: Owston's palm civet; *Viverricula indica*: lesser Indian civet)

Rat Snake (*Ptyas korros*: Indochinese rat snake)

Large colorful butterflies (*Papilionoidea spp*.)

Turtles (*Hieremys annandalii*: temple turtle; *Caretta caretta*: loggerhead sea turtle; *Caretta olivacea*: olive Ridley sea turtle; *Testudo elongata*: elongated tortoise)