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**Wildlife Trading in
Vietnam: Why It
Flourishes**

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This report provides data on the logistics, scope and economics of the illegal trade in wildlife in Vietnam. It analyses the main reasons for the rapid growth in this trade and highlights key failures in the country's attempts to control it. The report recommends that the government should strengthen the capacity of the agencies responsible for fighting the trade and raise their budgets. It also highlights the need to use education to encourage Vietnamese people to stop consuming illegal wildlife products. The report concludes that, given the scale of the problem, a high level of commitment at all levels of government will be needed to significantly affect the illegal wildlife trade in Vietnam.

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Wildlife Trading in Vietnam: Why It Flourishes

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WILDLIFE TRADING IN VIETNAM: WHY IT FLOURISHES

Nguyen Van Song

EXECUTIVE SUMMARY

In recent years, the economies of Vietnam and China have developed quickly. This was accompanied by rising demand for wildlife products such as live wildlife, wildlife meat, dry wildlife products, and stuffed wildlife. Wildlife meat for eating and wildlife by-products for drinking and for medicine are popular in Vietnam, China, Taiwan, Korea, and Japan. The most popular species are snake, turtle, bear, bird, pangolins, and monitor lizard.

This study, conducted in 20 out of 61 provinces and cities in Vietnam, assessed the extent of wildlife trading; established the trade flow of products within the country to their foreign destinations; and analyzed the causes of weak enforcement of laws on illegal wildlife trade. Data gathering was done from January to July 2002 using personal interviews.

The total estimated volume of live and wildlife meat in and out of Vietnam is about 3,050 tonnes per year, of which about half was for domestic consumption. Trade in wildlife meat accounts for 80% of the total and this is concentrated in Ha Noi and Ho Chi Minh City. The total revenue and profit from illegal wildlife trade in Vietnam are estimated at USD 66.5 million and USD 21 million per year, respectively. In the study sites alone, the estimated total profit is eight times the expenditure on monitoring and enforcing. In the entire country, the estimated total profit is 31 times higher than such expenditures (USD 634,000 to USD 700,000); more than three times the total budget of Forest Protection Department staff (about USD 6.5 million), and four times the total fines collected (USD 5.5 million) per year. The estimated total revenue from illegal trade (USD 66.5 million) is 12 times the total revenue from legal wildlife trade (USD 5.2 million) per year. The study estimated that the average value of official confiscated live wildlife and wildlife meat from 1997 to 2002 accounted for only 3.1% of the total value of illegal wildlife trade per year.

The main domestic sources of wildlife species in Vietnam are protected areas. The main international sources are Laos, Cambodia, and Myanmar. Both sources travel along Road 1A to Ha Noi, and Ho Chi Minh City markets. From Ha Noi, wildlife species travel out to China through Mong Cai-Quang Ninh, and Lang Son.

The main reasons for the continuous and intensified illegal wildlife trade in Vietnam are the following: high demand and profitability of illegal wildlife trade; lax implementation of wildlife protection policies by the government; and lack of manpower, funding, and equipment to implement the policies.

It is recommended that the government strengthen the capacity of the Forest Protection Department (FPD) staff for monitoring and enforcing existing laws to be complemented

by increased levels of fines. Given the information on centers of illegal wildlife operations, increased attention should be given to Ho Chi Minh City, Ha Noi wildlife markets, Mong Cai-Quang Ninh and Lang Son. Regarding the time of operation, the months to watch are September to March for trading of wildlife meat for domestic consumption, and cross border trading.

1.0 INTRODUCTION

1.1 Background of the Study

Vietnam has a total of 103 threatened and near-threatened species. Under the Birdlife International Global Conservation Priority, Vietnam ranks 10th in the world with respect to importance of endangered species. It has more endemic species than any other country in Southeast Asia. However, many of these are now very rare and difficult to see (Dearden 1994).

The conservation of endangered fauna and flora species is an important and controversial issue at the national and international level. Despite the concerted efforts of independent organizations, government agencies, and private individuals, many species still face the prospect of extinction due to environmental degradation and the threat of illegal trade of wildlife and its related products.

Bois (1997) stated that the illegal trade of wildlife species is presently the third largest contraband business (after illegal drugs and weapons) and is worth an average of USD 10 billion per annum.

According to a recent report by The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES 2000), a vast diversity of the world's plant and animal life is disappearing faster than new species are being discovered and recorded. Scientists estimate that within the next 30 years, more than one-fifth of the million types of plants, animals and other organisms living here on earth will become extinct.

Vietnam has now wiped out 200 species of birds and 120 other animal species over the last four decades, mainly due to illegal hunting and trading (FPD 1998). The same report estimated that only 200 tigers and 10 Javan rhinos now exist in Vietnam, and that wild elephant numbers have declined from 2,000 just over 20 years ago to about 200 today. Other rare species like the grey ox, spotted deer, musk deer and wild buffalo are dwindling. The population of turtles, snakes, frogs and tortoises is also falling rapidly due to their popularity as export goods.

Among the fast disappearing wildlife species are turtles and tigers. According to the recent evaluation of the Turtle Conservation and Ecology Project in Vietnam, there are 23 turtle species in Vietnam of which three are critically endangered species (CR), 11 endangered species (EN), seven vulnerable species (VU), and two lower risk species (LR). Specifically, *Coura trifasciata* (Turtle) (Rua ba vach) is a very critically endangered species and *Mauremys annamesis* (Turtle) (Rua trung bo) which is endemic to Vietnam, are being traded in large amounts. For tigers, the estimated population of Indochina tigers, *Panthera Tigris corbertti*, is a maximum of 200 in number (Nguyen et al. 1999). Vietnam's Red Data book, published in 1992, listed the tiger as an endangered and highly threatened animal. Vietnam has well-developed

domestic retail markets for tiger products and reports by trade investigators indicated that much of the supply of raw tiger parts is consumed in the country. According to Nguyen et al. (1999), tigers from Laos and Cambodia primarily supply about 82% of the Vietnamese market for its domestic trade.

1.2 Statement of the Problem

Vietnam's natural environment, which supports one of the world's most biologically diverse ecosystems, has deteriorated rapidly over the past 10 years, according to a World Bank report released in September 2002. Vietnam is home to about 10% of the world's species (World Bank 2002). Vietnam's endemic species - 28% mammals, 10% birds and 21% reptile and amphibian species - are now endangered, mainly because of habitat loss and hunting. Vietnam officially recognizes 54 species of mammals and 60 species of birds as endangered species.

Cao (1998) stated that rare and endangered animals are disappearing from Vietnam's forests at an alarming rate with wild animal stocks decimated by systematic hunting and increased forest destruction. Animals are commonly destined for captivity as pets or are eaten. Primate tissues are used in traditional medicine. The demand and price for wildlife meat in cities have also increased rapidly. The problem prompted calls for the government to play a stronger role in stopping the illegal animal trade and to promote a sustainable forest management policy.

Vietnam's problem of illegal trade in wildlife affects neighboring countries like Indochina and Southeast Asia. Vietnam has become an important "crossroad" of illegal wildlife trade from Myanmar, Thailand, Laos and Cambodia to China, Taiwan, Korea, and Singapore.

Over-extraction of wildlife and the resulting threat of extinction of many of the country's animal and plant species, have not been addressed despite the implementation of various laws and programs like the wildlife protection policies, illegal wildlife trading ban and the anti-wildlife trading campaigns in the cities of Dong Xuan-Ha Noi, Cau Mong and Ho Chi Minh City.

Vietnam has also a range of anti-poaching laws but these are often ineffectual. There is a shortage of funds and trained staff in almost all forest protection stations across the country. There are currently 58 forest protection stations that employ about 8,000 staff covering nearly 10 million hectares of forested land. A typical forest ranger earns about USD 18 per month and is provided with the most basic working equipment including a firearm, two electric torches and two sets of clothing each year. Incentives for successful prevention of animal trapping operations are not attractive enough to promote effective work by forest rangers. Current awards for uncovering a major illegal logging or hunting operation stand at only USD 14.

In summing up, Vietnam was a rich source of wildlife in past years, but currently it is an effervescent wildlife market and an important crossroad of illegal wildlife trade from Southeast Asia to neighboring countries. The Vietnamese government and aid donor agencies (multilateral, bilateral, and NGO) have endeavored to address this problem but the situation has not improved. The illegal trade in wildlife continues unabated.

1.3 Questions of the Study

This study attempts to answer the following questions:

- a) What is the extent and value of illegal wildlife trade in Vietnam?
- b) What are the policies on wildlife protection in Vietnam?
- c) Why does wildlife trade continue?
- d) What resources are required to effectively enforce, monitor, and implement wildlife protection policies in Vietnam?

1.4 Objectives of the Study

In general, this study estimated the gains from wildlife trade, established its extent, and analyzed the reasons for the ineffective implementation of wildlife protection policies in Vietnam.

Specifically, the objectives of this study are as follows:

- a. to assess the extent of wildlife trade in Vietnam;
- b. to map out the networks of wildlife trade;
- c. to estimate the traders' gains in wildlife trade;
- d. to identify constraints for effective implementation and enforcement of wildlife protection policies;
- e. to estimate the expenditure for effective implementation of wildlife protection policies; and
- f. to provide recommendations for effective implementation, enforcement and management of wildlife in Vietnam.

1.5 Rationale and Significance of the Study

Illegal wildlife trade is escalating in terms of quantity and value. Finding the constraints and the solutions to the continuing trade of wildlife is a challenge for policy-makers, authorities and researchers. Policies drawn to address such problems can be successfully implemented and practiced only if there is a comprehensive understanding of the root causes. Likewise, it is important to identify the constraints to effectively enforce policies addressing the wildlife trade.

Most of previous studies in Vietnam paid little attention to these areas of studies – they were primarily focused on individual protected areas. A comprehensive study on the extent, value, profit, networks, tricks and marketing channels of illegal wildlife trade in the whole country is necessary. Although the Vietnamese government and aid donor agencies had invested significantly in controlling and monitoring wildlife species, it is still ineffective. Where, when, and what stage of wildlife protection and conservation should be concentrated on and invested in are important questions that should be

answered. The results of this study provide valuable information on the extent, value, profits, networks, marketing channels, factors that intensify illegal trade, sources and expenditure on monitoring and enforcement in dealing with illegal wildlife trade in Vietnam. It also provides insights to policy-makers, resource managers, governors, and inspectors on how enforcement, monitoring and control of wildlife trade can be more effective. Thus, this study would enhance the efficiency in controlling, monitoring, enforcement and cooperation in regulating the illegal wildlife trade. It is also an important material for environmental economic studies, especially the preservation and protection of wildlife in Vietnam and neighboring countries.

1.6 Hypotheses of the Study

The following are the hypotheses of the study:

- (a) There is a high demand for live wildlife, wildlife meat, and wildlife products in and out of Vietnam that makes illegal wildlife trade a highly profitable venture.
- (b) Funds and equipment for implementation, enforcement and monitoring of the policies of wildlife protection are inadequate.
- (c) Manpower of inspector agencies is inadequate and inexperienced in handling the jobs required.
- (d) There is a lack of cooperation among inspectors, FPD staff, policemen, local governors, market management agency and others.

1.7 Scope and Limitations of the Study

The wildlife trade is widespread throughout Vietnam but due to the limitations of time and budget, this study selected only 20 hotspot provinces and cities. Moreover, the primary data was gathered from January to July 2002 only. Wildlife species includes fauna and flora. This study focused only on wildlife fauna. It covers illegal live wildlife, wildlife meat, dry products, and stuffed wildlife markets only.

Furthermore, due to the nature of the illegal trade, the study was not able to obtain detailed cost and benefit data and the exact quantity of traded products. The best approximation was presented based on information obtained from key informants.

2.0 REVIEW OF LITERATURE

2.1 Related Studies on Wildlife Trade

Simmons and Krueter (1989), Barbier and Swanson (1990), Bulte and Kooten (1996 and 1999), and Khanna and Harford (1996), investigated the effects, advantages and disadvantages of illegal wildlife trade ban. They concluded that from the point of view of environmental conservationists, total wildlife trade ban is good but from the view of economists, total wildlife trade ban will lead to loss of welfare. This is because the expenditure of monitoring and enforcement of partial wildlife trade ban is very high, especially in the case of cooperative actions among countries.

Li and Li (1994) from the Institute of Zoology, Chinese Academy of Sciences Beijing-China, estimated the volume of trade in the Longyao port on 29 June and at the Dongxing port on 27 July 1994. The volumes of wildlife imported to China from Vietnam through the Longyao port and the Dongxing port were 14.9 tonnes and 14.2 tonnes, respectively. There are more than 10 other ports on the Guangxi frontier bordering Vietnam. Therefore, the volumes of wildlife imported to China from Vietnam can be expected to be more than those coming through the three ports. Yoon (1999) stated that according to reports from Trade Record Analysis of Fauna and Flora in Commerce (TRAFFIC), a wildlife trade-monitoring program, more than 240 tonnes of turtles - representing more than 200,000 individual turtles - were exported from Vietnam each year for sale in China in 1994.

Vu (1999) stated that wildlife species are sold daily at Dong Xuan Market in central Ha Noi. Campaigns by the Ha Noi People's Committee to stop this action have had only temporary success.

Yoon (1999) pointed out that China is one of the world's great centers of turtle and tortoise diversity in Southeast Asia. It is teeming with species found nowhere else in the world. However, in recent years, researchers say, this biological treasure trove has become a gold mine for profiteers who have been gathering every turtle in sight for sale as food and medicine in the turtle markets of China. "Southeast Asia is being vacuumed of its turtles for China's food markets," said Dr. John Behler, Chairman of the freshwater tortoise and turtle specialist group at the International Union for the Conservation of Nature and Natural Resources. "The China markets are a black hole for turtles."

Hendrie et al. (2000) commented that the composite picture of trade in Vietnam is far from complete. The absence of trade monitoring and lack of baseline information on distribution, population status and other factors make it very difficult to provide even a reasonably clear picture of the situation in Vietnam.

Nowell (2000) concluded that traditional medicine communities in China, South Korea, Taiwan, North America and Europe understood that tiger bone could no longer be legally used. At the end of the 1990s, their consumer markets appeared to have been eliminated although some illegal trade may have continued undetected.

Nooren et al. (2001) observed that methods for concealing wildlife among other export goods have become common as more attention is given to law enforcement. There are now reports of wildlife being hidden in the false bottoms of fuel drums and even in hollowed out gypsum rocks. He found that some of the people playing an active role in trade in Laos could afford to spend several thousand dollars for a parcel of tiger bones. He claimed that the poverty-level salary for government workers and misguided provincial regulations relating to disposal of confiscated wildlife trade items have turned many government officials into accomplices or participants in the trade.

2.2 Related Studies on Expenditure on Monitoring and Enforcement

Vu (1999) concluded in his paper that the national government and provinces had worked hard in setting up a legal framework for environmental protection, enforcement of laws against illegal trade and environmental awareness. Unfortunately, the funding

available for this is modest while the problems are enormous. Funds are still needed to train people to protect their natural environment.

The total wildlife trade ban is a great challenge for conservationists because expenditure on monitoring and enforcement are very high if there is no illegal wildlife trade ban system. In particular, it is very difficult to monitor and enforce illegal wildlife trade between countries. Simmons and Krueter (1989), Barbier and Swanson (1990) and Bulte and Kooten (1996 and 1999), demonstrated that a complete trade ban is unlikely to be efficient in the border from an economic perspective.

A study by TRAFFIC Southeast Asia (SFNC/TRAFFIC 1999) about wildlife trade in the Pu Mat Nature Reserve concludes that - in order to assess the patterns of hunting and trading activities over a long-term period - a monitoring and evaluation system needs to be established. For this to work effectively, the involvement of local people, relevant government authorities, and international organizations are required in conjunction with the broad aims of the Social Forestry Nature Conservation Project.

This is not to suggest that there is any widespread or effective enforcement of laws prohibiting trade in wildlife. Law enforcement is uncoordinated, scattered, and ineffectual and it lacks support at higher levels in the government. In many cases, what passes for law enforcement is barely a disguised tax on the trade (Nooren et al. 2001).

3.0 METHODOLOGY

3.1 Conceptual Framework

High domestic and international demands for live wildlife, wildlife meat, and wildlife dry products create widespread illegal wildlife trade in Vietnam. In studying this illegal wildlife trade problems, one should examine the history of wildlife demand and supply, estimate the volume and value of trade and how much profit traders earn as well as analyze the existing policies, expenditure on monitoring and enforcement, capacities of relevant protection agencies, and required capacities of protection agencies (Figure 1).

The activities and functions involved in the movement of live wildlife and dry products from suppliers (hunters, middlemen, retail traders, and others) to the ultimate consumers include the exchange, the physical and the facilitating functions. The exchange functions refer to buying, selling and pricing. The physical functions consist of trafficking, hiding, breeding, collecting, processing, and grading. The facilitating functions include financing, risk bearing, and marketing communication. The system operation to transform the wildlife and its products to wildlife consumers in domestic and international places also acts as a communication system by which the demands of the wildlife consumers are transmitted to the producers through the pricing mechanism.

The organized and operated illegal wildlife trading system is affected by government policies, non-government organization's (NGO) conservation programs, economic and socio-cultural factors, climate, breeding and eating seasons. The institutional factors that influence the illegal wildlife trade system were analyzed by focusing on how the existing governmental wildlife protection policies and programs of aid donor agencies (multilateral, bilateral and NGO) contribute to or reduce the problem.

A closer look at the network of illegal wildlife trading was also carried out. The flow of wildlife and wildlife products from suppliers to consumers is traced. The routes wildlife and wildlife products move, from the point of hunting and trapping to the final consumers, are termed as trading channels or networks of trading. It is a vehicle for bridging the physical and non-physical gaps from suppliers to consumers as well as examining some of the “tricks in business through the exchange process including the determination of price.

The expenditure on monitoring and enforcement, total revenue and total profit of illegal wildlife trade in Vietnam were also looked into. These are important factors that contribute to the reduction and intensification of illegal wildlife trade problems. The expenditure on monitoring and enforcement is one of the factors in the government, and multilateral, bilateral and NGO that influence the illegal wildlife trade system. Such expenditures are the work of the Forest Protection Department (FPD) staff; local government campaigns; wildlife conservation and protection training; education cost and multilateral, bilateral as well as NGO’s conservation and preservation in Vietnam. Comparison of the expenditure on monitoring and enforcement and the total annual budget of FPD with the total profit of illegal wildlife trade was done to point out the financial incentives from wildlife trade vis-à-vis the limited capacity of the agency tasked with regulating such trade.

Finally, based on the results of this study and factors that intensify the illegal wildlife trade, recommendations are given to reduce the illegal wildlife trade in Vietnam.

3.2 Place and Time of the Study

For this study, 20 hotspots out of a total of 61 cities and provinces in Vietnam were surveyed. Hotspots are identified as critical centers of illegal wildlife trade where collecting, keeping, and marketing of wildlife occur on a relatively larger scale.

The North subsite is considered as the biggest market of illegal wildlife trade, a destination of domestic trading and a place for repackaging wildlife shipments before trafficking to China, Korea, Taiwan and Japan. This subsite includes seven provinces and two cities (Figure 2). Six provinces, namely: Quang Ninh, Lang Son, Cao Bang, Ha Giang, Lao Cai and Lai Chau border on China and Laos. There are about 10 important frontier passes to China and one to Laos in these six provinces. The two biggest cities and wildlife markets here are Ha Noi and Hai Phong. Ninh Binh province is a bottleneck-checkpoint for timber and non-timber product shipments from the central, south, and Laos to the north, and China by Road 1A and Thong Nhat railway.

The Central subsite borders on Laos and is the second important domestic source of wildlife in Vietnam. The Central subsite is mid-way and a crossroad for illegal wildlife trade from the south, and Laos and Myanmar to the north. There are some important frontier passes such as Nam Can- Thanh Hoa, Cau Treo-Ha Tinh, Lao Bao–Quang Tri and A Luoi-Thua Thien Hue and routes from Laos to Road 1 passing through the Central subsite. It is the shortest way from Laos and Myanmar to Road 1 of Vietnam (Figure 2).

There are five provinces and cities included in the South subsite of this study, four of which border on Cambodia. These are Kon Tum, Gia Lai, Tay Ninh and Can Tho. Tay Nguyen Plateau, the most important source of wildlife in Vietnam, is located in this area. Ho Chi Minh City has the most widespread wildlife and wildlife product trading.

Can Tho province is located in the center of Mekong River Delta which is an important source of water turtle.

Data gathering was done from January to July 2002. January to March is still wildlife trading season in Vietnam, and includes the Chinese New Year.

3.3 Respondents of the Study

Both primary and secondary data were utilized to achieve the objectives of the study. Primary data were taken from wholesalers and retail wildlife traders and hunters, consumers, FPD staff, policemen, market managers, and at study areas through personal interviews using a structured interview schedule (Appendices 1 and 2). Data were also collected from traditional Vietnamese medicine shops, tourist souvenir shops, traditional medicine producers, hotels and restaurants serving wildlife dishes and middlemen. Data from wildlife traders and consumers were also used to estimate the extent of trading volume. The marketing channels and trading flows of wildlife species were studied using "backward mapping technique". This technique traces the source and nodes of flows or marketing channels of wildlife products. Information on the marketing channels, marginal marketing revenue, price, transportation tricks, source of wildlife species and other information on wildlife species trading were collected from traders at Dong Xuan Market, Phung Hung, Lan Ong streets (Ha Noi City), Le Mat "snake village" in Ha Noi, Cau Mong, Pham Viet Chanh, Phan Van Tri and Dong Khoi markets (Ho Chi Minh City); and Vinh-Nghe An; Hue and Tam Ky- Quang Nam markets.

A total of 171 respondents were interviewed, the majority of whom were owners of wildlife meat restaurants and traditional medicine shops, wildlife traders and FPD staff (Table 1). Besides these, scientists, drivers, biologists, heads of CITES, WWW, TRAFFIC, FFI, UNDP staff, authorities, etc, were also interviewed for the necessary information.

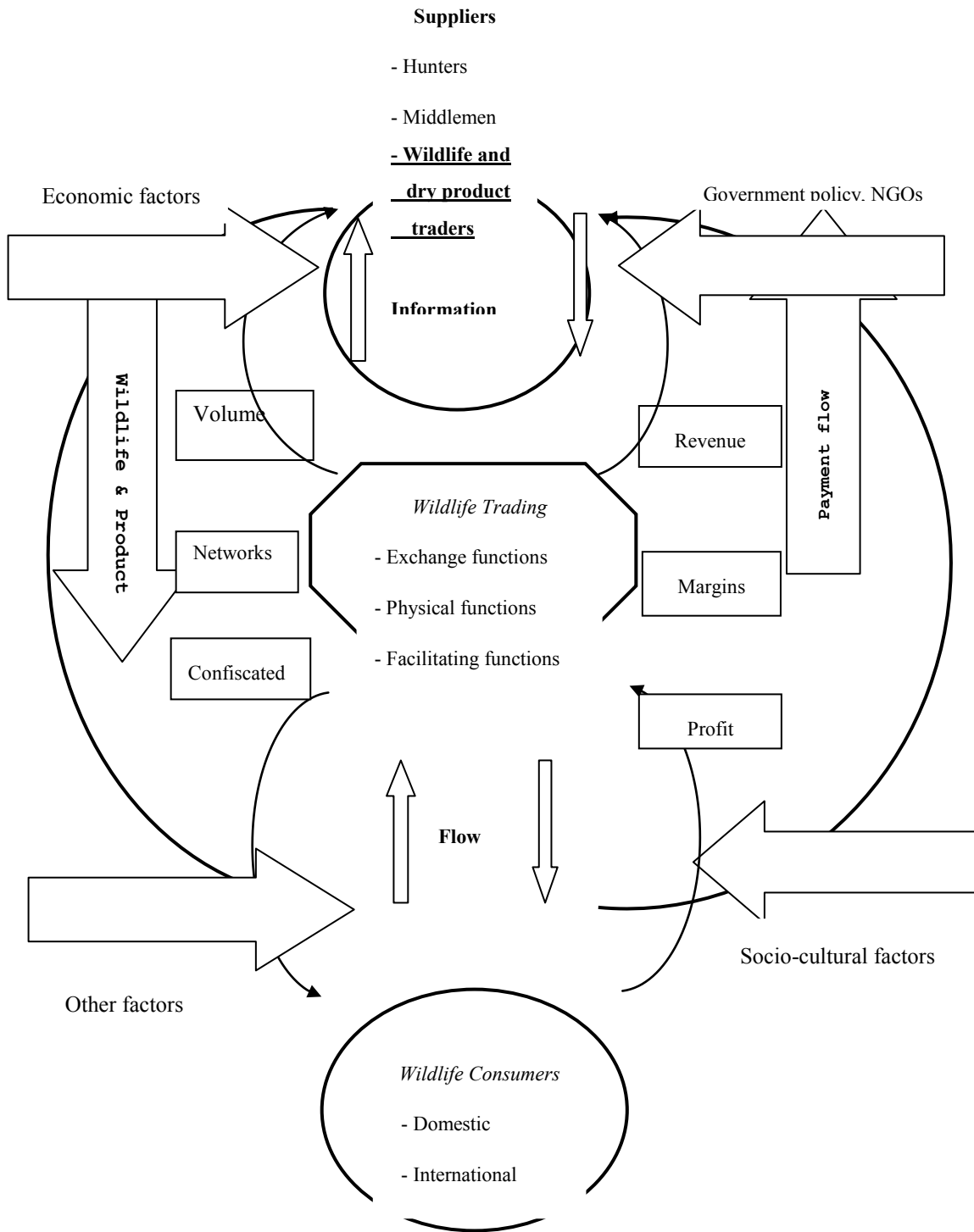


Figure 1 The Trading System for Live Wildlife and Wildlife Products.

Source: Adapted with modification from Havemen and Knopf 1970.

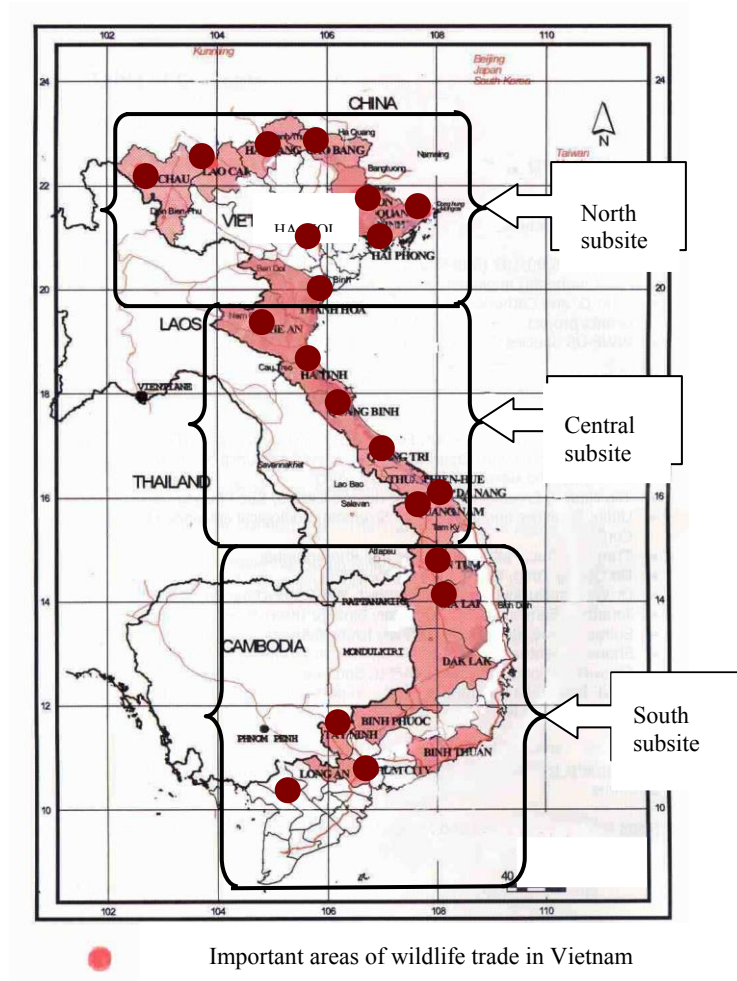


Figure 2: Map of Vietnam Showing the Study Sites Surveyed Provinces or Cities

Table 1. Description of Respondents for the Study in Vietnam, 2002.

<i>OCCUPATIONS OF RESPONDENTS</i>	<i>NUMBER</i>	<i>PERCENTAGE</i>
Chiefs or vice chiefs of provincial FPDs	15	8.8
Head of inspecting and legislation section of provincial FPD	14	8.2
FPD staff or leaders of FPD branches	13	7.6
Wildlife meat or partial wildlife meat restaurant owners	46	26.9
Wildlife traders	25	14.6
Souvenir shop owners	11	6.4
Illegal bear keeping and trading owners	3	1.8
Traditional medicine shops' owners	15	8.8
Hunters	2	1.2
Others (heads of CITES, WWF, TRAFFIC, FFI; EN-UNDP staff, authorities, director of Wildlife Rescue Center, directors of conservation projects, scientists, drivers, biologists, and others).	27	15.8
Total	171	100

Secondary data were collected from various sources such as publications, Multilateral Environmental Agreements records of WWF, FFI, CITES, UNDP, and others. Enforcement agencies were also the most important sources of secondary data such as FPDs, custom officers, and local authorities. The secondary data consisted of a general description of Vietnam (e.g., history, culture, customs, legal status, natural characteristics, and others.); wildlife species trading-hunting situations and problems; the amount and extent of illegal wildlife trade; enforcement and monitoring of illegal wildlife trade; preservation, conservation, and development plans and policies of Vietnam in the future to limit the problems; imperfect policies, and shortcomings of the wildlife protection legislation systems and other information that could help answer the questions and objectives of the study.

3.4 Analytical Framework: Estimation Procedures

3.4.1 Estimate of Volume, Revenue and Profit

Markets for live wildlife, wildlife meat and dry products were surveyed to estimate the volume of the product, total revenue and total profit. The volume of product 'j' is obtained by multiplying the number of traders of live wildlife/ number of restaurants in local areas/number of stuffed wildlife shop in the street with the average amount of product 'j' sold per period of time (daily, monthly).

a) Estimated total supply of illegal live and wildlife products (Formula 3.4.1)

$$TA_j = \sum_{i=1}^n t_{ij} \quad (3.4.1)$$

$i = 1 \dots n$ (number of trader on the market)

$j = 1 \dots m$ (number of wildlife species on the market)

TA_j is the total existing supply of illegal live wildlife or dry products (j) in the markets (in unit, head or kg)

t_{ij} is wildlife product or live wildlife ' j ' sold by trader ' i ' (live wildlife trader, souvenir shops, medicine shops)

b) Estimated total supply of wildlife meat in the markets (Formula 3.4.2).

$$TAM = \sum_{i=1}^n (NR_i * AM_i) \quad (3.4.2)$$

$i = 3$ (small, medium and large restaurants)

TAM = Total wildlife meat supply per day of the market (kg)

NR_i = Number of restaurant with scale (i)

AM_i = Average amount of wildlife meat sold per day (kg)

c) Estimated total revenue from live wildlife, wildlife meat, dry, and stuffed products in the markets (Formula 3.4.3)

$$TR = \sum_j^n (TA_j \times AP_j) \quad (3.4.3)$$

Where:

TR is the total revenue from live species or wildlife meat restaurant, dry product, or stuffed product(s) in the market in a period of time.

TA_j is the total existing supply of illegal live wildlife or meat wildlife or dry products (j) in the markets (in unit, head or kg).

AP_j is the average price of live species, wildlife meat or dry product (j).

d) Estimated total profit from live, wildlife meat, souvenir, and stuffed wildlife markets

Due to the nature of illegal wildlife trade and the limited data available, the method used to estimate the profit of live wildlife, wildlife meat restaurant, wildlife souvenir and stuffed animal markets is as follows:

$$PR = TR * ARP \quad (3.4.4)$$

where:

PR is the profit of live wildlife/ wildlife meat restaurant/ wildlife souvenir/stuffed markets.

TR is the total revenue of live species/ wildlife meat restaurant/ wildlife souvenir/stuffed in the market in a period of time (per day and per month for souvenir and stuffed markets).

ARP is the average rate of profit (in percentage) of the product at the markets obtained from key informants; details on expenditure could not be obtained from the traders.

e) Estimated expenditure of enforcement and monitoring (CFEM) per year

$$CFEM = \sum(TBA_i \times WC_i) + \sum AC_i + \sum(ACC_j \times NC) + NGO + CRC + FNG \quad ($$

where:

i = 1 for patrol force

= 2 for direct force (note: patrol force is responsible for monitoring markets and the routes.

TBA_i is the total budget of FPD allocated to the patrol force/direct force per year

WC_i is the percentage of the number of the confiscated illegal wildlife cases to the total number of confiscated timber and non-timber products cases per year

AC_i is the administrative cost assigned for patrol/ direct staff's operation per year

ACC_j is the FPD average cost for illegal wildlife trade campaign or education and training programs in province (j) per year [note: this budget is separated from the total budget of FPD (TBA_i)]

NC is the number of the campaign or education programs per year

NGO is the total foreign investment on Multilateral Environmental Agreements for wildlife species protection, conservation and education per year

CRC is the total budget (fixed cost and variable cost) of the Animal Rescue Center per year

FNG is foreign governments' investment in Vietnam for illegal wildlife trade monitoring and enforcement per year.

4.0 RESULTS AND DISCUSSION

4.1 The Legal Wildlife Trade in Vietnam in Recent Years

Vietnam-CITES office in 1999 issued 594 permits and 185 certificates for exporting wildlife. It issued 787 permits and 185 certificates in 2000 and 573 permits and 161 certificates in 2001 (Table 2). Forty-five institutions participated in legal wildlife exports. Of these, 39 institutions exported wildlife for commercial purposes and six for scientific purposes. In 2001, Vietnam legally imported 59 head monkeys, *Macaca fascicularis* (Khi duoi dai) from Cambodia and then exported 5,629 head monkeys to Japan, United States, England and Italy. Most of the exported species were from culture farms and they included boas, snakes, crocodiles, and *Gecko gecko* (lizards).

Besides Vietnam-CITES permits and certificate, the FPDs of Ca Mau, Bac Lieu, and Soc Trang issued 321, 679 and 403 permits, respectively, for exporting local wildlife (Table 3).

International trade of certain turtle species captured from natural conditions was permitted before the year 2000. As per Circular letter 41 and Decision 46 of the year 2001 (Appendix 5), however, only cultured turtles could be legally exported. From 1994 to 1999, Vietnam illegally exported 35.7 tonnes of 11 species of turtles to China and Taiwan. Sources of turtles include Mekong River Delta such as Ca Mau, Bac Lieu, Soc Trang and Can Tho. The turtles were trapped from their natural environment.

The United States and European Union (EU) countries imported mostly coral and boa products from Vietnam. Singapore, one of the Southeast Asian countries, imported legally a large amount of boa skin from Vietnam in recent years. The increasing trend of monkeys (*Macaca fasciculari*) exported to Japan, United States, England, and Italy grew rapidly in recent years. This amounted to 3,064 and 5,629 heads in 2000 and 2001, respectively. About 53 - 200 tonnes of *Dendrobium herba* (Thach hoc) and *Cibotium barometz* (Cau tich) were exported to Korea annually. Most bird species were exported to EU countries, Japan, and United States. Snakes and turtles were mainly exported to China and Taiwan. The total revenue for legal wildlife exports is USD 5,544,000 for the year 2000 alone (Vietnam-CITES 2001. Personal Communication).

Table 2. Volume and Destination of Legally Exported Wildlife in Vietnam by Species (Vietnam –CITES Permit).

SPECIES (VIETNAM CITES PERMITS)	UNIT	YEAR		DESTINATION
		2000	2001	
Coral (<u>San ho</u>)	Kg	742,394	742,829	US, Germany, Holland, Ukraine, Taiwan, France and Sweden
Boa. <i>P. molurus bivittatus</i> (<u>Tran con den</u>)	Head	15,670	nd	US, Germany, Holland, Spain, England, Italy.
Boa. <i>P. reticulatus</i> (<u>Tran Vang Con</u>)	Head	2,250	68,467	US, Germany, England, Italy.
Skins of Boa <i>P. molurus bivittatus</i> (<u>Tran con den</u>)	m ²	269,197	40,931	Singapore, Japan, US, Malaysia, Italy, and Taiwan
Skins of Boa. <i>P. reticulatus</i> (<u>Tran Vang Con</u>)	m ²	86,100	nd	Singapore, Japan, and Italy
Pangolin, <i>M.javanica</i> (<u>Te te tam</u>)	Piece	500	nd	Singapore and US
Monkey, <i>Macaca fascicularis</i> (<u>Khi duoi dai</u>)	Head	3,064	5,629	Japan, US, England and Italy
<i>Dendrobium herba</i> (<u>Thach hoc</u>)	Kg	53,000	30,500	Korea
<i>Cibotium barometz</i> (<u>Cau tich</u>)	Kg	195,000	143,000	Korea
Frog, <i>Rana tigerina</i> (<u>Ech</u>)	Kg	202,365	nd	US
Crocodile, <i>Crocodylus siamensis</i> , (<u>Ca sau</u>)	Head	3,000	nd	China
King Cobra , <i>Naja naja</i> (<u>Ran ho mang</u>)	Head	350	nd	China
Bird, <i>Gracula religiosa intermedia</i> (<u>Chim yeng</u>)	Head	13,025	nd	US, Germany, Holland, Spain, England, Italy, Japan, and Malaysia
Bird, <i>Leiothix argentauris</i> (<u>Chim ngu sac</u>)	Head	3,110	nd	Germany, Japan and Holland
Bird, <i>Psittacula alexandri</i> (<u>Vet</u>)	Head	1,950	nd	Japan, Italy, Holland, and France

Source: Vietnam-CITES office;

nd: no information/data

Table 3. Volume of Legally Exported Wildlife in Vietnam by Species (Provincial FPD Permits), 2000

<i>SPECIES AND PROVINCIAL FPD PERMITS</i>	<i>UNIT</i>	<i>CA MAU</i>	<i>BAC LIEU</i>	<i>SOC TRANG</i>
Turtle, <i>Malayemys subtrijuga</i> (<u>Rua ruong</u>)	Kg	18,850	75,120	57,505
Snake, <i>Ptyas korros</i> & <i>Elaphe radiata</i> (<u>Ran</u>)	Kg	19,380	110,190	179,207
Boa, <i>Python reticulatus</i> (<u>Tran gam</u>)	Kg	127,500	nd	nd
Skin of Boa, <i>Python reticulatus</i> (<u>Da tran gam</u>)	m ²	240,959	79,250	nd
Bone of Boa, <i>Python reticulatus</i> (<u>Xuong tran gam</u>)	Kg	1,550	nd	nd
Bird, <i>Dendrocygna javanica</i> (<u>Chim Le le</u>)	Head	10,350	21,409	nd
Lizards, <i>Gecko gecko</i> (<u>Tac ke</u>)	Kg	5,204	265	nd
Earthworm (<u>Giun dat</u>)	Kg	75,570	nd	nd

Source: Vietnam-CITES office

* no information was available on destination of exports

4.2 The Illegal Wildlife Product Trade in Vietnam

4.2.1 The Illegal Live Wildlife Trade

There are about 90 live wildlife traders in the three subsites. The total estimated revenue and profit of live wildlife markets in the three subsites are VND 33.4 billion (USD 2.2 million) and VND 4.9 billion (USD 328,460) per year, respectively. Of these, Ha Noi and Ho Chi Minh City have the biggest share of live wildlife trade (Table 4). The total confiscated quantity of live wildlife and wildlife meat trade in the year 2001 is 79,776 kg. The estimated value of the confiscated wildlife is VND 21 billion (USD 1.4 million) per year. The total confiscated quantity of live wildlife and wildlife meat is 441 tonnes from 1997 to 2002 in the three subsites.

The estimated total revenue and profit in the North subsite are about VND 34.2 million (USD 2,277) and VND 5.1 million (USD 341) per day, respectively (Table 4). The best selling species in March - which corresponds to the spring season in Vietnam when many traditional festivities are held involving the use of wildlife species in Dong Xuan market - are birds and snakes. An endangered and expensive species in Vietnam is the Golden Turtle (Rua vang) which costs VND 35 billion - VND 40 billion (USD 2,400 – USD 2,600) per kg. This species is considered critically threatened and a heavy penalty is imposed if a trader is caught. Most of the traded wildlife at Dong Xuan market come from the northwest and central part of Vietnam and from the Tay Nguyen Plateau.

Table 4. Value of Illegal Live Wildlife Trade and Confiscated Quantity in the Three Subsites

SUBSITE	Number of traders	LIVE WILDLIFE TRADE				CONFISCATED LIVE WILDLIFE		
		Total revenue		Total profit		Year 2001		1997 – 2002
		VND million	VND million	VND million	VND million	Value (VND million)	Quantity (Kg)	(Kg)
		/day	/year	/day	/year			
North	36	34.2	12,465	5.1	1,870	10,356	31,383	177,730
Central	22	21.5	7,857	3.0	1,100	9,719	43,196	196,154
South	33	35.7	13,045	5.4	1,957	1,065	5,197	37,194
Total	91	91.4	33,367	13.5	4,927	21,140	79,776	411,078

Note: The confiscated illegal wildlife trade amount is the sum of the confiscated amounts from 1997 – 2002 the subsite.

The estimated price of confiscated quantity of the year 2001 is the average prices of wildlife meat restaurants of each subsite

Exchange rate: 15,000 VND = 1 USD

The Central Provinces are important sources of wildlife such as turtle, bear and monitor lizard. Most of these wildlife species are sourced from protected areas such as Vu Quang, Pu Mat, Phong Nha, Son Tra, Ba Na Nui Chua and others. Compared with other provinces in the Central subsite and North subsite, Quang Nam is an important source of various turtles including forest turtle and water turtle. Most live wildlife markets in the Central subsite are located along Road 1A. There is also a network of illegal wildlife trade around Quang Nam. Traders from Ha Noi and China can find tonnes of turtles at each market along Road 1A.

The prices of wildlife species in the South subsite are much lower than in the Central and North subsite. Pangolin and turtle, for example, could command one-half or two-thirds of the prices in other subsites. The main sources of wildlife species are from Laos, Cambodia and the Tay Nguyen Plateau. Most species sold at Cau Mong wildlife market are loris (*Nyctiebus species*), turtles, monkeys, snakes and boas. Traders claimed that the People's Committee and FPD of the City have recently carried out some campaigns against wildlife trade in the city. Cau Mong wildlife market and traders were scattered along Nam Ky Street, at Tao Dan Park or around Le Hong Phong street, District 5.

The volume of confiscated live wildlife trade in the Central subsite is the largest when compared with the others because the Central subsite is a crossroad of illegal wildlife trade from Laos, Cambodia, the Tay Nguyen Plateau, and south to the north, and to

China (Table 4). For the past six years, the volume of confiscated wildlife has increased. The fastest rate of increase is from the year 2000 to 2001 (Fig. 3).

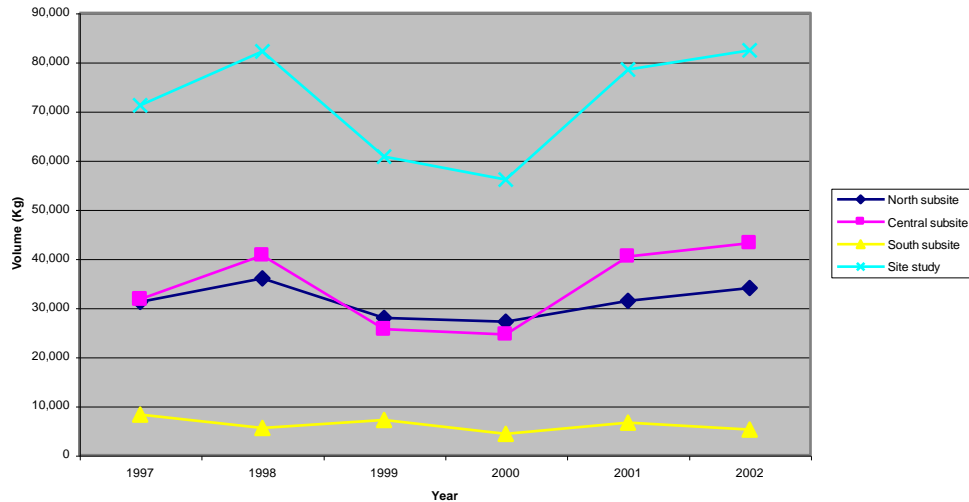


Figure 3. Volume of Confiscated Wildlife in the Three Subsites over Six Years.

Pangolins, monitor lizards, cobras, douc langur, and turtles/tortoises are sourced from the border of Vietnam. One trader in Lomphat (Cambodia) claimed that he had been trading 500–800 kg of turtles and tortoises per year with Vietnam. Live tigers and tiger products, loris, and pythons are also traded. A Cambodian customs official stated that the ultimate destination of wildlife exported to Vietnam was China (Martin and Wikrananayake 1997).

The chief of FPD in Ho Chi Minh City cited an example that occurred in April and July 2001. His staff had to pursue two very tough illegal cases involving 5 kg of rhino horn, 4 ivory tusks, 18 skeletons of *Pardofelis nebulosa* and *Panthera pardus* (bao gam and bao hoa mai), and 202 kg of pangolin scab, among others. The value was estimated at about VND 2 billion (USD 135,000). “The confiscated figures we can give you would not accurately reflect even 5% of what passes through the city,” he said.

The Km 15 controlling station, located 15 km from the Mong Cai border in China, is a very important checkpoint for all imported and exported shipments along Route 18A from Ha Noi to China. The volume of confiscated illegal wildlife trade was 823 tonnes and 245 tonnes in 1997 and 1998, respectively (Hoan 2002. Personal Communication). Since 1999 - while implementing the export policies of the Vietnamese government - this station did not have to inspect export shipments but only inspected imported shipments from China. Therefore, the data for the years 1999, 2000, and 2001 are much smaller than the previous years' data. Records for 1997 and 1998 show that there were about 1 to 3 tonnes of illegal live wildlife traded through Mong Cai–Quang Ninh per day. The dominant wildlife traded through Mong Cai are snakes and turtles. The chief of the station said that the actual volume of illegal wildlife trade through the Mong Cai

border are much higher than the reported volume. He estimated that only 30% of the actual volume was checked through his station in 1997 and 1998.

Traders and kingpins hire several porters to ship the wildlife through the Ka Long river by boats in Mong Cai–Quang Ninh and by motorcycle or on foot through various short cut routes such as Cong Trang, Tan Thanh, and Chi Ma in Lang Son. The porters are paid by the Vietnamese traders when they present receipts from the Chinese. The payment for porters ranged from 0.2 to 0.5% of the total value of the wildlife, depending on the types of species. The wildlife will be packed again and trafficked to China by bus or by train. The illegal wildlife shipments were never brought to China through the Ka Long frontier pass. An illegal wildlife trader claimed that he only needed 9-10 hours to ship wildlife directly from Ha Noi or Bac Ninh to Mong Cai border without being checked at the Km 15 station. He would usually travel to Mong Cai at night because of better climatic conditions and also to avoid road checks. Wildlife traders in Mong Cai–Quang Ninh and Lang Son no longer store wildlife in these areas anymore because of good road conditions, updated communication facilities, and higher risk of storing wildlife near the borders. The wildlife clearing houses are organized in Ha Noi, Bac Giang, Nghe An, Da Nang, Ho Chi Minh City, and Da Lat.

The traders employ different tricks to transport wildlife: using various kinds of permits and licenses or fake licenses; transporting wildlife products in one bus while monitoring them from another to avoid penalty when detected; changing cars often; and hiding wildlife and wildlife products with other goods during transportation (like hiding live wildlife with livestock, fish, birds to cover the animal odors or concealing the wildlife with rice and vegetables). Sometimes the total amount of goods is divided into smaller quantities and poor people are hired to carry these goods across the borders. There is also very little chance of identifying the real owners of the commercial consignment in this way. Other tricks include: grinding the bones of tiger, monkey, bear and other animals into powder form; using boxes with two bottoms or ceilings; using special cars like ambulance, gas, ice, fish-transporting cars, the prisoner-cars of police; organizing false weddings and funerals to transport wildlife goods; giving bribes, and using weapons or influential people to threaten or attack inspectors.

Trading of live wildlife is still profitable even though it generates lower returns compared to wildlife meat trade. Live wildlife is intended for food, medicine, decorations and religious ceremonies. Buyers come from within Vietnam, China, and other countries. The common live wildlife in public markets in Vietnam are birds, snakes, turtles, *gecko gecko* (lizards), pangolins, and monitor lizards. Birds and snakes help to contribute about 40 - 45% of the traders' income.



(Photo: Nguyen Van Tuy).

Figure 4. Some Wildlife (Turtle and Snakes) Confiscated in Mong Cai–Quang Ninh, 2001

4.2.2 The Illegal Wildlife Meat Trade

In Vietnam and in China, people are fond of eating. As the saying goes: “We can eat any species with four feet on the ground except the table; we can eat anything in the ocean that can swim except submarines; and we can eat anything in the sky that can fly except planes”. In the 20 places surveyed, there are at least four wildlife meat or partial wildlife meat restaurants in each town or city. The biggest wildlife meat patrons in Vietnam are found in Ha Noi, Ho Chi Minh City, Hai Phong, and Vinh-Nghe An.

The results of the analysis of illegal wildlife meat trade in the north of Vietnam is shown in Table 5. Ha Noi is still the biggest center of wildlife meat trade with an estimated total revenue of VND 184 million (USD 12,270) per day. This product accounts for 76% of the total revenue from wildlife in the north. The profit from wildlife meat trade is estimated at VND 57 million (USD 3,800) per day for Ha Noi alone. Most of the wildlife meat in Ha Noi comes from the central, northeast, northwest, the plateau, south of Vietnam and from Laos. Ha Noi has one separate wildlife meat village called “snake village”- Le Mat - which has about 21 wildlife meat restaurants that sell only wildlife meat. Wildlife meat restaurants in other provinces or cities in Vietnam are scattered in towns and they serve wildlife meat together with other domesticated animal meat like pork and dog meat. Some wildlife meat restaurants (e.g. Quoc Trieu, Chien Thang) in Le Mat can serve more than 300 customers at one time. The 13 species reserved for wildlife restaurants’ menu at Le Mat are snakes, palm civets, monitor lizards, porcupines, leopards, pangolins, monkeys, forest pigs, hard-shell turtles, soft-shell turtles, civets, boas, and birds. Of these the most common and largest are snakes, civets, forest pigs and birds. The peak hunting season and trading of wildlife throughout Vietnam are from September to March.

Hunters or middlemen receive only 30 - 40% of the price wild meat restaurants charge to their customers. Compared with the North subsite, the prices of wildlife meat in the Central subsite are cheaper by an average of VND 100,000 (USD 6.7) per kg.

Wildlife meat restaurants in the Central subsite are notably different from those in the north – owners sell wildlife meat while they carry on business as clearing houses or storage facilities for wildlife species in the town. Laos and Tay Nguyen Plateau are important sources of wildlife that are supplied to the Central subsite.

One owner of a wildlife meat restaurant in Vinh –Nghe An said that he stored 10 bears (weighing 140 kg each), 5 *Pardofelis nebulosa*, 150 kg of porcupines, 300 kg of boas, and 500 kg of monitor lizards. He claimed that these animals were sourced from Laos and the Tay Nguyen Plateau. He could sell 50-70 kg of such animals daily to his customers who were mostly from the north or from China. His reason for continuing wildlife trade was that “it enabled one to become rich faster”.

Table 5 shows the daily wildlife meat consumption in Vietnam and the Central subsite. Observations were carried out on 99 wildlife meat restaurants in the Central subsite. The amount of fresh wildlife meat consumed per day was 591 kg, concentrated in Vinh-Nghe An, Ha Tinh town and Hue. This amount is lower when compared with the north (733 kg) and the south (717 kg). In the Central subsite, the total revenue and profit per day are about VND 133 million (USD 8,870) and VND 47million (USD 3,130) respectively. These figures are lower when compared with those in the north which are about VND 241 million (USD 16,000) in revenue and about VND 75 million (USD 5,000) in profit. On average, each restaurant’s profit is about VND 470,000 (USD 31) per day.

Wildlife meat restaurants still exist in all provinces despite frequent attempts to close them by authorities and FPDs. The restaurants, however, could not advertise their wildlife meat. Sales are widespread, as there are about 35-40% wildlife meat restaurants in the Tay Nguyen Plateau towns. Although it is not listed in the menu, the wildlife meat is available on request, being stored in a place nearby and delivered by motorcycle. The authorities complained that this method of illegal wildlife tactic is very difficult to monitor and control due to lack of manpower and equipment in the department as well as the fact that such restaurants also serve other dishes besides wildlife meat. The total revenue of wildlife meat trade is about VND 36 – VND 40 million per day (USD 2,400 to USD 2,670), where one third of the revenue is from Ho Chi Minh City. The most popular wildlife dishes in the south are otters, soft-shell turtles, pangolins, snakes, loris, monitor lizards, and pythons. Most of these are collected from local areas, Laos and Cambodia, while some local soft-shell turtles are from the Mekong River Delta.

Wildlife or partial wildlife meat restaurants in Ho Chi Minh City are mostly of the same scale as those in Ha Noi, and concentrated on Phan Viet Chanh Street. The estimated wildlife meat consumed in the city is about 465 kg valued at VND 116 million (USD 7,750) per day. The favored wildlife meats are those of forest deer, forest pig, pangolin, musk deer, palm civet, monitor lizard and muntjak. These are sourced from Laos, Plateau, Cambodia, the Central subsite and the Mekong River Delta. Although Ho Chi Minh City has 37% of the total number of restaurants in the South subsite, the total revenue and profit is about 79%. This is because of the larger scale and higher price in the area.

Table 5. Estimates of Illegal Wildlife Meat Trade in the Three Subsites.

<i>SUBSITE</i>	<i>NUMBER OF RESTAURANTS</i>	<i>AVERAGE AMOUNT OF WILDLIFE MEAT CONSUMED PER DAY (Kg)</i>	<i>TOTAL REVENUE PER DAY (VND1000)</i>	<i>TOTAL PROFIT PER DAY (VND1000)</i>	<i>AVERAGE REVENUE PER RESTAURANT PER DAY (VND1000)</i>	<i>AVERAGE PROFIT PER RESTAURANT (VND1000)</i>	<i>SOURCE OF WILDLIFE</i>
North	102	733	241,761	74,616	2,370	732	PL, L, NW, CT, S, MRD
Central	99	591	132,970	46,540	1,343	470	LC, PL, L, S, QN, MRD
South	115	717	146,720	51,353	1,276	448	MRD, CBD, L, PL, CT
Total	316	2,041	521,451	172,509	-	-	

Note: PL- Plateau; L-Laos, CT-Central; S-South; MRD –Mekong River Delta; QN-Quang Nam; CBD-Cambodia;

15,000 VND = 1 USD

The chief of FPD in Ho Chi Minh City lamented on the lack of funds, manpower, equipment and other impediments (like wildlife traders' tricks, ineffective policies, corruption and attack on inspectors), which occur because of the high profit that wildlife trade offers.

In summing up, there are about 316 wildlife meat restaurants which supply 2,040 kg of wildlife meat per day. The daily total revenue and profit are VND 521 million (USD 34,760) and VND 173 million (USD 11,500), respectively for the study sites. The North and South subsites consume higher amounts of wildlife meat than the Central subsite. The total revenue and average profit per restaurant in the North subsite are nearly double compared with the South and Central subsites because of the bigger scale of businesses in the area. On average, each restaurant in the North, Central, and South subsites earns about VND 732,000 (USD 50), VND 470,000 (USD 31), and VND 448,000 (USD 30) in profit per day, respectively. Sources of wildlife meat are mostly from Tay Nguyen Plateau, Laos, Central and Mekong River Delta. Customers who visit wildlife restaurants usually are rich people and foreigners. Wildlife meat markets account for a larger volume, revenue and profit when compared with live wildlife markets. The average estimated profit of each wildlife meat restaurant per day is equivalent to the average monthly salary of one FPD staff (about VND 545,000) (USD 36.33).

4.2.3 The Illegal Dry Wildlife Products

There are about 24 kinds of products made from wildlife for sale in Hang Gai and Hang Trong. The popular “dry products” are tiger teeth, bear teeth, artistic ivory goods, artistic turtle shell products, and sea turtles. Owners of artistic products shops at Hang Gai rate the sale of these products at about 25% of the total goods per month with an average profit of about 12% of the total revenue only. Products made from ivory are not profitable because the capital involved is too high. Original sources of tiger, bear products and ivory are Laos, Myanmar and the Tay Nguyen Plateau. Sources of turtle products are Quang Nam, central Vietnam, and Mekong River Delta. The estimated revenue and profit from dry wildlife products of these artistic shops are VND 26.3 million (USD 1,747) and VND 3.2 million (USD 213) per month, respectively.

Souvenirs made from different parts of wildlife are sold mostly to tourists and foreigners. Sources of dry tiger and bear products are the Plateau, Laos, Cambodia and Myanmar while dry turtle products are from Quang Nam and Mekong River Delta. The estimated revenue and profit of wildlife products along Dong Khoi Street are about VND 149 million (USD 9,667) and VND 18 million (USD 1,190) per month, respectively.

The most expensive dry wildlife product in the three streets is the big chimney lamp made of ivory – priced about VND 20.7 million (USD 1,380) per unit while whole dry medium sea turtle is about VND 2 million (USD 133).

Table 6. Estimated Revenue and Profit of Illegal Dry Wildlife Products Trade.

<i>MARKET</i>	<i>TOTAL REVENUE PER YEAR (VND 1000)</i>	<i>TOTAL PROFIT PER YEAR (VND 1000)</i>	<i>SOURCE OF PRODUCTS</i>
Souvenir shops	2,098,116	251,784	PL, L, CBD, QN, CT, MRD, MY
Tiger bone balm	2,732,000	1,229,400	L, MY, Russia, PL
Bear bile	27,675,000	9,611,500	L, PL, CBD
Total	32,505,116	11,092,684	

Note: PL- Plateau; L-Laos, CT-Central; MRD –Mekong River Delta; QN-Quang Nam; CBD-Cambodia; and MY-Myanmar.

Exchange rate: 15,000 VND = 1 USD

The figures presented in Table 6 are for dry wildlife products' trade in Ha Noi, Hai Phong, Vinh-Nghe An, and Ho Chi Minh City. Total estimated revenue and profit of illegal dry wildlife products trade are about VND 32.5 billion (USD 2.2 million) and VND 11.1 billion (USD 740,000) per year, respectively. Bear bile trade accounts for 85% of the total revenue and profit.

Tiger bone balm and bear gall are popularly used in Vietnam for the treatment of bone diseases, cancer and other diseases. This is an important factor that leads to the extinction or reduction of tiger and bear population in Vietnam. Ha Noi, Vinh-Nghe An and Ho Chi Minh City are cities where most of the traditional medicine shops (that trade and process tiger bone balm and bear bile in Vietnam) are concentrated. Ha Noi, with about 1,250 heads in the year 2000, is the largest illegal bear keeper in Vietnam.

4.2.4 The Illegal Stuffed Wildlife Trade

Historically, kings and officials in Vietnam used wildlife skins and stuffed wildlife as symbols of aristocracy and power. Marketing of skins and stuffed wildlife are developed in big cities like Hai Phong and Ha Noi in the north and Ho Chi Minh City in the south. The prices and sources of the stuffed products are almost the same in both cities with Hai Phong City having only nine species, Ha Noi 12 species and Ho Chi Minh City 13 species. The estimated total revenue of stuffed wildlife trade per month for the three cities of Ha Noi, Hai Phong, and Ho Chi Minh City are VND 19.2 million (USD 1,282), VND 14.3 million (USD 952) and VND 17.2 million (USD 1,150), respectively. The estimated total profit per month of stuffed wildlife trade for Ha Noi, Hai Phong and Ho Chi Minh City are VND 4.8 million (USD 320), VND 3.6 million (USD 238), and VND 4.3 million (USD 287), respectively (Table 7). Shop owners and sellers revealed that the usual customers of these products are foreigners and rich people who bought them as souvenirs or decorations for their homes.

Stuffed wildlife products are scattered around the city. In Ha Noi, Hai Phong and Ho Chi Minh City, there are no markets selling only stuffed wildlife. Products are made from wildlife that died during transportation or hunting. At a skin-tanning and animal-stuffing center in Tien Ky district–Quang Nam–Da Nang, the shop owner claimed that on average, he managed to stuff 50-60 animal species monthly for transportation to Ho Chi Minh City. His animals were sourced from the Tay Nguyen Plateau, local areas, and Laos (Personal Communication 2002). This suggests that the stuffed wildlife markets are not as developed as the live wildlife and meat wildlife markets. Therefore, this study did not estimate the average profit of each trader or shop.

Table 7. Estimated Volume and Value of Stuffed Wildlife Trade in Ha Noi, Hai Phong and Ho Chi Minh City.

<i>MARKET</i>	<i>TYPES of PRODUCT</i>	<i>QUANTITY (PIECES)</i>	<i>ESTIMATED TOTAL REVENUE PER MONTH (VND 1000)</i>	<i>ESTIMATED TOTAL PROFIT PER MONTH (VND 1000)</i>	<i>SOURCES OF PRODUCTS</i>
Ha Noi	12	35	19,224	4,806	PL, W,L, QN,
H.Phong	9	33	14,272	3,568	PL, W,L, QN,
HCMC	13	43	17,232	4,308	PL, QN, L, MRD
Total	34	111	50,728	12,682	

Note: PL- Plateau; L-Laos, CT-Central; MRD –Mekong River Delta; QN-Quang Nam; CBD-Cambodia; and MY-Myanmar. HCMC = Ho Chi Minh City

15,000 VND = 1 USD

4.2.5 Comparison of Earnings from Illegal Wildlife Trade by Types of Products

Total profit of illegal wildlife trade in the study site was about VND 79 billion (USD 5.3 million) per year of which about VND 4.9 billion (USD 227 thousand) was earned from live wildlife, about VND 63 billion (USD 4.2 million) from wildlife meat, about VND 11.1 million (USD 740,000) from dry products, and VND 152 million (USD 10,130) from stuffed products. The largest profit was from wildlife meat restaurants, which comprised 79.6% of the total, while the smallest profit was from stuffed products which was only 0.2% of the total (Table 8).

Table 8. Estimated Profit for Wildlife Trade in Different Wildlife Markets.

MARKET OR PRODUCT	<i>TOTAL PROFIT PER YEAR</i>	<i>PERCENTAGE</i>
	<i>(VND MILLION)</i>	
Live wildlife	4,927	6.2
Wildlife meat restaurants	62,966	79.6
Dry products (including wildlife souvenir, tiger bone balm, and bear bile)	11,092	14.0
Stuffed products	152	0.2
Total	79,140	100

Note: Data did not include the profit of illegal wildlife trade through the Vietnam–China border annually; therefore, this total profit is domestic from different illegal wildlife markets only.

Exchange rate: 15,000 VND = 1 USD

4.3 Networks and Marketing Channels of Illegal Wildlife Trade in Vietnam

4.3.1 The North Subsite

The North subsite acts as clearing houses, big wildlife meat markets and the final destination of wildlife trade in Vietnam before they are exported to China. The main network is along Road A1 from the central and south to Ha Noi by buses or trains, and then from Ha Noi to China through Mong Cai or Lang Son by buses or planes. This route accounts for about 90-95% of illegal wildlife trade to China.

Other routes are from northeast such as Ha Giang which pass along Route 2, Lao Cai - route 70, northwest and north of Laos across Dien Bien Phu frontier to Lai Chau and Son La - Route 6, then to Ha Noi wildlife restaurants or live wildlife markets and finally to China (Figure 5).

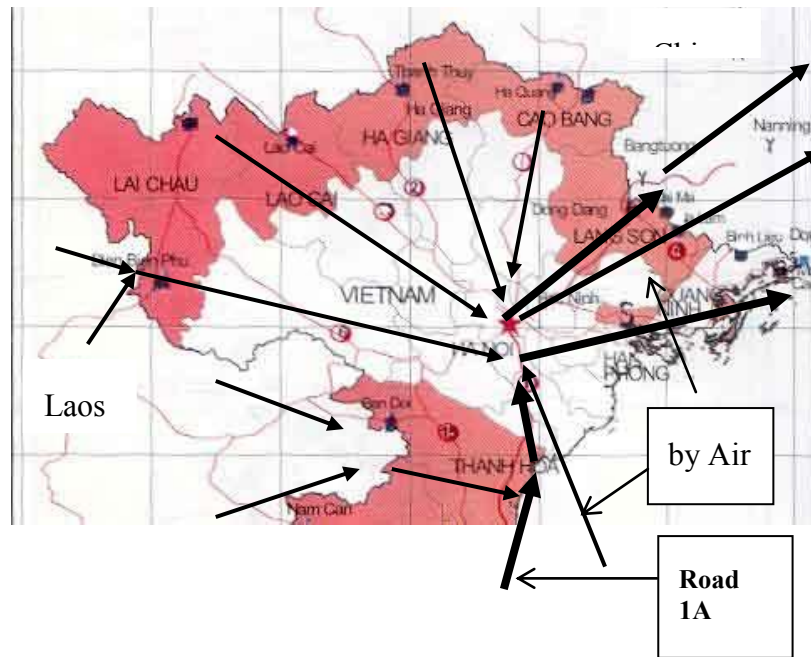


Figure 5. Network of Illegal Wildlife Trade in North Subsite.

4.3.2 The Central Subsite

Compared with the North subsite, all provinces in the Central subsite borders on Laos and along Road 1A. These provinces are important intermediate places of illegal wildlife flows from Laos and the Plateau to the north of Vietnam and then to China.

The most important networks in the Central subsite are from Laos through Nam Can along Route 7, Cau Treo along Route 8 and Lao Bao along Route 9 frontier passes to Nghe An, Ha Tinh and Dong Ha-Quang Tri, respectively; then to Road 1A and to Ha Noi by buses, trains, or by air. Vietnamese traders from Nghe An, Ha Tinh and Quang Binh make regular visits to Laos via various forest tracks and along Route 15 and Route 12 (Figure 6) to source wildlife products. The volume of confiscated wildlife is biggest at Quang Binh and Nghe An (Appendix 4). These provinces have the largest forests and important protected areas in Vietnam with many short forest tracks from Laos to Road 1A.

A Vietnamese trader at Quang Binh said that wildlife is usually carried across the border and through forests tracks by Hmong porters (Hmong is an ethnic minority living in these areas). Initially, the Hmong porter has to make a successful delivery to the Vietnamese side. He then brings a receipt back to Laos and only then is he paid by the Vietnamese representative. Lao Bao-Quang Tri's kingpin trader estimated that 350–550 kg of wildlife pass through his clearing house each day on its way to Ha Noi or China. Most of the species are turtles, pangolins, macaques, snakes and birds. Hunters collect these species from ethnic minorities and Kinh communities in the border areas. Ben

Giang and Thanh My in Quang Nam are collecting centers for tiger products and ivory from Laos and Tay Nguyen Plateau to Ha Noi and Ho Chi Minh City.

Wildlife from local sources comes from protected areas such as Vu Quang, Ben En and Pu Man. In local areas, wildlife species travel along Route 7, 8, 9, 12 and 15 to collecting points along Road 1A (Figure 6).

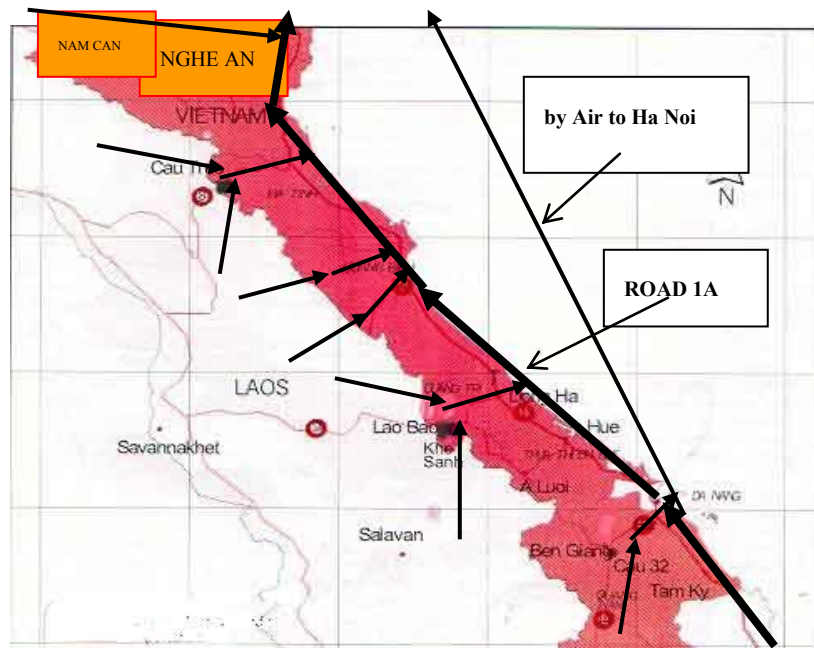


Figure 6. Network of Illegal Wildlife Trade in Central Subsite

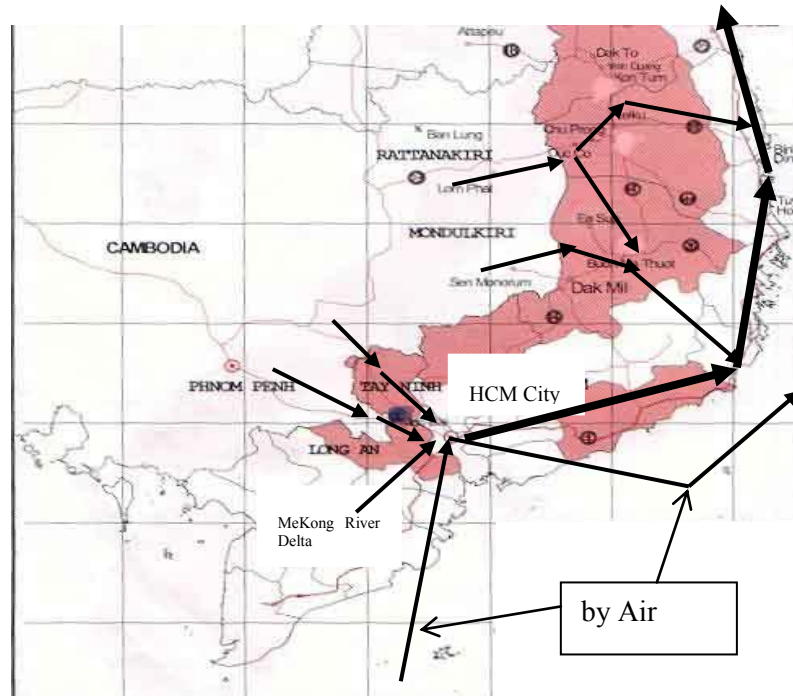
4.3.3 The South Subsite

The Tay Nguyen Plateau and Cambodia are the most important sources for the wildlife markets in Ho Chi Minh City, the north and China. The critical illegal wildlife trade networks in the South subsite are from Cambodia to Duc Co, turning left to Pleiku, along Route 19 to Quy Nhon and then to Road 1A; from Duc Co turning right to Buon Ma Thuot and then flowing along Route 14 to Nha Trang and from Cambodia through Moc Bai or Tay Ninh frontier passes to Ho Chi Minh City. Another important network is from the Mekong River Delta to Ho Chi Minh by boat or bus. Kon Tum province, located at the convergence between Route 18B from Laos and Route 14 from the south (Gia Lai, Dak Lak), is believed to be an important entry point for wildlife coming from the adjacent Dong Ampham National Biodiversity Conservation Area in Laos (Figure 7).

The wildlife shipments from Svay Rieng province in Cambodia are transported directly to Ho Chi Minh City through the border in the Samat, Moc Bai, Loc Ninh frontier passes and various forest tracks. Clearing houses and wildlife cages are hidden in the forest along Route 22 to Ho Chi Minh City.

Some types of species (such as muntjaks, palm civets, and forest pigs) from the Tay Nguyen Plateau along Road 1A at Quang Nam, Nha Trang, and Khanh Hoa are

transported the opposite way to Ho Chi Minh City. Most of these species are for domestic consumption. There are international illegal trade routes from Indonesia and Malaysia to Ho Chi Minh City by air (Figure 7).



Note: HCM City = Ho Chi Minh City

Figure 7. Network of Illegal Wildlife Trade in South Subsite.

The most important network flow in the domestic and international routes through Vietnam is Road 1A. The domestic flows are sometimes through opposite directions with international flows along Road 1A and Route 18A. Two very important exit points from Vietnam are Mong Cai-Quang Ninh and Lang Son. The most important four nodes of the domestic and international networks are Ho Chi Minh City, Ha Noi City, Lang Son and Mong Cai-Quang Ninh provinces.

4.3.4 Marketing Channels of Illegal Wildlife Trade in Vietnam

There are about nine possible channels of products from hunters to ultimate consumers (Figure 8). Channel 1 shows live wildlife passing directly from hunters to ultimate consumers. This channel refers to purchases made by travelers from small live wildlife markets/stalls along road 1A, road 18A and other areas. It accounts for a small percentage of wildlife trade in Vietnam which is mainly for domestic consumption only.

Live wildlife could also be flown to local restaurants which then sell them as a wildlife dish to ultimate consumers (Channel 2). Professional hunters are experienced in hunting and then selling their products this way. This channel exists only for local consumption and at sources of wildlife.

Channel 3 (hunter or south border traders to middlemen to domestic wildlife meat restaurant and then to ultimate consumers) and Channel 4 (hunters to middlemen to live wildlife market to domestic wildlife restaurant and then to ultimate consumers) are the most important routes of illegal domestic wildlife supply and consumption especially for wildlife meat. They account for about 85-90% of the total volume of domestic wildlife consumption daily.

Medicine or souvenir shop buyers could also get wildlife products directly from the live wildlife markets. These buyers can then sell products directly to ultimate consumers or to traditional medicine shop operators or to other small-scale souvenir shop owners.

There are two channels of illegal wildlife trade from Vietnam to foreign markets. One route is from hunters or south border traders to domestic middlemen to live wildlife market to foreigners' intermediaries to kingpins of illegal exports. The other way is for the foreigners' middlemen to buy directly from the hunters or border traders. Illegal international wildlife traders in Vietnam often deal with foreign markets such as China, Laos, Cambodia, Taiwan, Korea and Japan.

4.4 Monitoring and Enforcement of Illegal Wildlife Trade Policies

4.4.1 Wildlife Protection Policies

Vietnam's international agreements and national legislation enable the government and responsible sections to enforce, control and monitor domestic as well as international legal and illegal wildlife trade.

Besides acceding to CITES, Vietnam had a meeting with China through the Sino-Vietnamese Working Group on Forestry Cooperation in Guangxi Province in December 1995. This resulted in an enactment of cooperation for the control and enforcement of illegal wildlife trade at the border.

With regards to national legislations, the government and Forest Protection Department (FPD) of Vietnam had tried to stop the illegal wildlife trade by issuing 21 policies since 1989. These included five decisions, five decrees, two directives and nine other official letters or circulars.

Hunting or poaching of any animal without a permit has been totally banned in Vietnam when a law was passed as early as 1975 in what was then North Vietnam (Nooren et al. 2001).

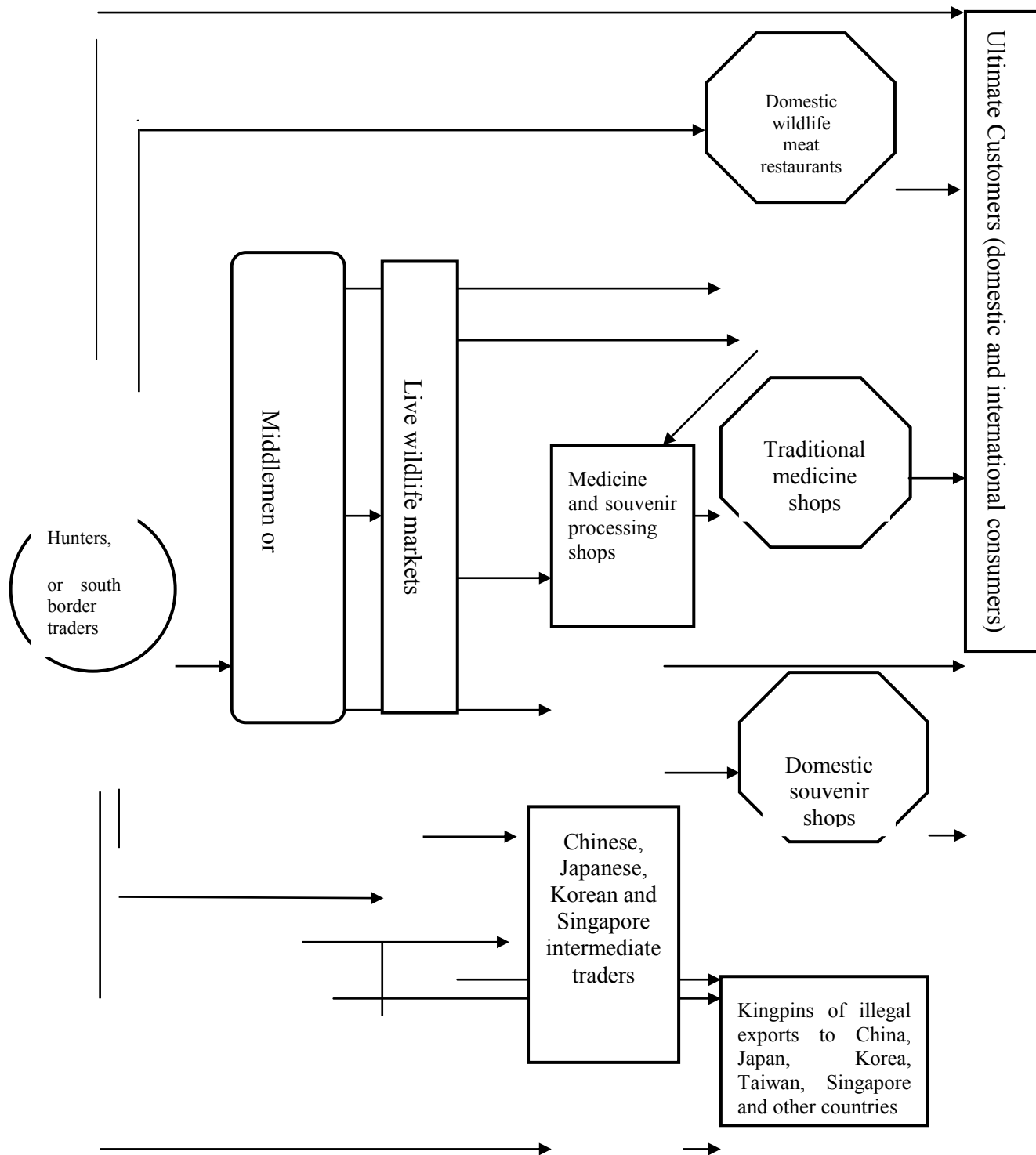


Figure 8 Marketing Channels of Illegal Live Wildlife and Dry Products Trade in Vietnam

4.4.2 Institutions Responsible for Wildlife Protection

The Forest Protection Department (FPD) is mainly responsible for controlling, monitoring, protecting and conserving timber and non-timber products. Vietnam has participated in CITES since 1994 and is committed to follow all articles of CITES. Under the terms, Vietnam has designated some institutions to oversee the establishment of regulations that the Convention mandates (Table 9).

Table 9. Institutions Responsible for Wildlife Protection and Conservation.

<i>No</i>	<i>NAMES OF INSTITUTION</i>	<i>MAIN RESPONSIBILITIES FOR WILDLIFE PROTECTION AND CONSERVATION</i>
1	The Forest Protection Department (FPD). Decree 39/CP May 1994 and Directive 359/TTg May 1996 define and guide functions, duties and rights of FPD	Consultant for the Ministry of Agriculture and Rural Development (ARDM) about forest protection in the whole country. Guides specific duties, professional knowledge, and implementation of laws. Mainly responsible for protecting, controlling, and monitoring illegal wildlife hunting and trading within and out of Vietnam.
2	ARDM and FPD	The Management Authority (MA) responsible for the issuance
3	The Center of Resource and Environmental Studies (CRES) and the Institute of Ecology and Biological Resources (IEBR)	As the Scientific Authorities (SA), responsible for advising the Management Authority on whether a proposed export permit would be detrimental to the survival of the species concerned. The SA also has the right to veto legal trade and export permits given by the MA if they think the species are threatened.
4	Vietnam CITES	Controls and monitors hunting and trading of wildlife at original sites, restaurants, medicine and souvenir shops and on the roads. Vietnam CITES also cooperates with the CITES Secretariat and other CITES members to control and enforce illegal cross-border trading.
5	Customs Officers, Border Soldiers, FPD's staff, Policemen, Market Management, and Epidemic Protection Department	Regulate shipments of goods out of Vietnam. However, prior to the six border offices, Vietnam CITES, FPD officers, and officers of the National Environment Agency are required to inspect shipments of wildlife at the borders to ensure that documentation complies with relevant laws.

4.4.3 Capacity of Institutions for Wildlife Protection

a) Manpower. The total regular FPD staff of Vietnam is 8,266 members: from these, 25% graduated from colleges, 45% are from vocational technical schools and 30% are from high schools. There are 423 FPD branches at districts and 54 others at

entry points of road, river and air transportation. Besides these, FPD branches are also located at eight national nature parks (Vietnam - CITES office 2002. Personal Communication.)

The range of average forest area per FPD and direct FPD staff (staff who goes directly to the forest) vary greatly in provinces and cities. The total forest area of the surveyed provinces and cities is 6.4 million hectares, occupying 55% of the total forest area of the whole country (Table 10). The average number of FPD staff per province or city is 171, each FPD staff and direct FPD staff being responsible for 1,871 hectares and 2,414 hectares of forest, respectively. The largest area that each direct staff is responsible for is 3,840 hectares, found in Kon Tum province.

Table 10. Manpower Information and Area Responsibility of FPD Staff

<i>DESCRIPTION</i>	<i>INDICATOR</i>
Total forest areas of the surveyed provinces and cities (1000 ha)	6,394
Total staff of FPD	8,266
Graduated from college	25 %
Average number of staff per province	171
Average area responsibility of each FPD staff (ha)	1,871
Average area responsibility of each <i>direct staff</i> (ha)	2,414
Lowest area responsibility of each <i>direct staff</i> (ha)	111 (Ha Noi)
Largest area responsibility of each <i>direct staff</i> (ha)	3,840 (Kon Tum)

Source: Surveyed, statistics book and Vietnam-CITES office

b) Funding and Equipment. Table 11 shows the interview results of FPD staff on the existing funding, equipment, manpower, salary and local professional compensation systems. The sample size included 15 chiefs of provincial FPD, 14 heads of the inspection and legislation of the provincial FPD and 13 staff of FPD. All (100%) asserted that the existing funding and equipment are inadequate. The chiefs of Ha Noi and Quang Ninh FPD (where illegal wildlife markets are uncontrollable), claimed that the number of FPD manpower was smaller than that of illegal traders and that their FPD equipment were too out-dated compared with those used by illegal traders. Furthermore, illegal traders used fast cars, modern mobile phones and multiple tricks to avoid FPD staff. Moreover, Vietnam's policy did not give FPD staff the authority to stop any transportation of illegal goods without concrete evidence. Most of the interviewees asserted that the FPD manpower should be increased about 1.5 times. Since 1995, there were 13 FPD staff killed and about 500 wounded by poachers while in the line of duty.

FPD staff, especially those working under poor living conditions in the deep forest, are dissatisfied with the system on allowance, incentives, salary, compensation, location as

well as injury and death benefits. They complained that the rights of FPD staff are not well looked after (Table 11).

Table 11. FPD Staff's Responses to Questions in 20 Provinces and Cities.

<i>Systems</i>	<i>Chief or Vice Chief of Province (15 people)</i>	<i>Head Or Vice-Head of the Inspection and Legislation Section (14 people)</i>	<i>Staff (13 people)</i>
Lack of Funding	100%	100%	100%
Lack of Equipment	100%	100%	100%
Lack of Manpower	100%	100%	100%
Rate of manpower increased to meet work demands	1.3-1.5 times (73%)	1.3 - 1.5 (64%)	1.5 times (54%)
	1.6-2 times (13.5%)	1.6 -2 times (36%)	No idea (46%)
	2.5-3 times (13.5%)		
Salary schemes	Irrational - 67%	Irrational - 57%	Irrational - 85%
	Should be improved -33%	Should be improved - 43%	Should be improved - 15%
Compensation allowance system(location and professional compensations)	Discourage working in local sites - 53%	Irrational -79%	Irrational, discourage working in mountains and forests - 100%
	Should be improved - 47%	Should be improved - 21%	
Cooperation between FPD, police, local government and other institutions	Poor - 67%	Poor -64%	Question not asked
	Can be improved - 30%	Can be improved - 36%	
Efficiency of NGO and other international institutions	Good- 27%	Good - 29%	Question not asked
	Did not know/need more information - 27%	Normal- 21%	
	Did not answer /No NGO - 46%	Did not answer/No NGO - 50%	

Source: Interviews with FPD staff

4.4.4 Capacity Required to Increase Protection Levels

Based on the results of FPD interviews in Table 11, the required manpower of FPD staff should be increased from 8,266 to about 12,400. The required budget of FPD should be increased from VND 97.4 billion (USD 6.5 million) to about VND 174 billion (USD 11.6 million) per year. Priority for increased budget should go to Kon Tum, Gia Lai, Quang Binh, Dak Lak, Lai Chau, Ha Giang and Cao Bang Provinces which are important sources of wildlife in Vietnam and have very few FPD field workers.

4.4.5 Expenditures on Monitoring and Enforcement of FPD

Direct FPD staff are workers who usually go to the field. They play an important role in managing forest resources in situ. The patrol forces are responsible in controlling and monitoring timber and non-timber products traded along routes, markets and collecting centers. According to the Ninh Binh FPD records, patrol forces solved 90-95% of the violations related to collection of timber and non-timber products. However, funding allocated to patrol forces in some provinces are low such as in Cao Bang, Ha Giang, Lai Chau and Lao Cai in the North subsite; Nghe An and Quang Tri in the Central subsite and Gia Lai in the South subsite. They ranged from the lowest 3% (Lai Chau) to 4.9% (Ha Giang) of the total expenditure of the FPD. Thus, this makes it difficult for patrol forces to carry out their jobs effectively. All these provinces are important sources of wildlife in Vietnam. The average investment for monitoring and controlling routes and markets is about VND 2.1 billion (USD 0.00014 billion) (6.6%) of the total investment of FPD at the study sites (Table 12). On average, 23% of FPD budget is invested in administrative work which is three times higher than the budget allocated for patrol forces.

Table 12. Total Average Operating Budget of 20 Surveyed Provincial FPDs, 2001.

<i>Indicator</i>	<i>Total cost (VND Million)</i>	<i>OPERATING BUDGET ALLOCATED TO</i>			<i>Comparison (%)</i>		
		<i>Indirect FPD staff (VND Million)</i>	<i>Direct FPD staff (VND Million)</i>	<i>Patrol force* (VND Million)</i>	<i>Patrol Vs Direct staff</i>	<i>Patrol Vs total</i>	<i>Indirect Vs direct</i>
Total and average	32,863	7,648	25,215	2,165	8.6	6.6	30.3

Source: From secondary data survey and FPD records.

Note: * Cost of patrol force is a part of direct staff cost

4.4.6 Estimated Expenditures on Monitoring and Enforcement of Wildlife Trade Policies in Vietnam

Most of the expenditure on enforcement and monitoring estimated in this study is based on the actual budget FPD allotted annually for illegal wildlife trade monitoring and enforcement; the variable cost and depreciation of Wildlife Rescue Center; local governmental expenditures for education and training as well as annual expenditures of relevant Multilateral Environmental Agreements in Vietnam.

Table 13. Manpower Assignment of Forest Protection Department, 2001.

<i>DESCRIPTION</i>	<i>TOTAL</i>	<i>INDIRECT STAFF</i>	<i>DIRECT STAFF</i>	<i>PATROL STAFF</i>
Study site	3,417	768	2,649	211
Whole country	8,266	1,858*	6,408*	510*

Source: Secondary data surveying

Note: * estimated base on the surveyed data of study site

The total expenditures of illegal wildlife trade monitoring and enforcement is about VND 9,500 million (USD 634,000) to VND 10,500 billion (USD 700,000) per year where the direct as well as indirect investments for monitoring and enforcement of illegal wildlife trade is 44.9% of the total. The majority of the direct expenditure incurred is for direct staff. The highest investor in monitoring and enforcement of illegal wildlife trade of NGO is TRAFFIC of WWF which has 23.6% of the total expenditure on monitoring and enforcement of illegal wildlife trade policies (Table 14).

4.5 Cost and Benefit Comparison and Analysis of Possible Economic Regulatory Measures

4.5.1 Projection and Comparison for Vietnam

a) Projection for entire Vietnam. Table 15 shows that the estimated volume of illegal wildlife trade in and out of Vietnam is about 5.7 tonnes per day. The total revenue and profit are about VND 1.6 billion (USD 108,000) and VND 498 million (USD 33,200) daily, respectively. The confiscated amount was 69 tonnes per year, estimated to be about 3.3% of the total amount of illegal wildlife trade in Vietnam. The value of confiscated live wildlife and wildlife meat was VND 18.5 billion (USD 1.2 million). Annually, there are about 3,050 tonnes of live wildlife and wildlife meat illegally traded in and out of Vietnam. The total revenue and profit are about VND 997 billion (USD 66.5 million) and VND 312 billion (USD 21 million) per year.

Table 14. Annual Total Current Expenditures on Monitoring and Enforcement of Illegal Wildlife Trade Policies in Vietnam.

<i>ITEMS</i>	<i>BUDGET IN VND (MILLION)</i>	<i>BUDGET IN USD</i>	<i>%*</i>
Direct expenditure			
<i>Direct incurred expenditure of patrol force</i>	261	17,400	2.7
<i>Direct incurred expenditure of direct staff</i>	3,043	202,867	32.0
Administrative (indirect) expenditure			
<i>Administrative expenditure distributed to patrol force</i>	82	5,467	0.9
<i>Administrative expenditure distributed to direct staff</i>	882	58,800	9.3
Local investment for education and training	747	49,800	7.9
Rescue center expenditure distribution	585	40,000	6.3
Foreign NGOs investment			
FFI	750-1,200	50,000- 80,000	7.9
WWF	2,250-2,700	150,000-180,000	23.6
CITES	150 - 225	10,000- 15,000	1.6
Foreign Governments	750	50,000	7.9
Total	9,500 – 10,475	634,334-699,334	

Note: Exchange rate: 15,000 VND = 1 USD

%* Computed on the conservative estimate of expenditures of foreign NGOs

Table 15. Summary of Quantity, Value and Profit from Wildlife Trade

<i>DESCRIPTION</i>	<i>QUANTITY</i>	<i>TOTAL REVENUE</i> (VND)	<i>TOTAL PROFIT</i> (VND)	<i>AVERAGE PRICE</i> (VND 1000/KG)	<i>AVERAGE PROFIT</i> (VND 1000/KG)
Total domestic consumption/day (study sites)	2,869 Kg	655 (million)	202 (million)	228.3	70.5
China border illegal trade/day*	2,900 Kg	957 (million)	296 (million)	330	102
Total/day (live and meat wildlife only)	5,769Kg	1.6 (billion)	498 (million)		
Annual Estimates/year (for study sites)	2106 tonnes	589 (billion)	182 (billion)		
Confiscated amount/year (in study sites)	69 tonnes	18.5 (billion)		268.5	
Projected live and wildlife meat/year (Vietnam)	3,054 tonnes	855 (billion)	264 (billion)		
14.2% of dry, medicine, and stuffed product/year (Table 8)		142 (billion)	48 (billion)		
Total		997 (billion)	312 (billion)		

Note: Surveyed results in Table 15 is the summation of amount of live and wildlife meat markets of the three subsites; (for convenience the unit used is in kg with number of heads converted to weights).

The average price is used for calculating the revenue and profit of surveyed results (Row 1 is the average price and profit from the live, and wildlife meat market for the three subsites).

The confiscated amount is the average amount of 6 years from 1997 to 2002 of the three subsites (Appendices 4)

The average prices in the three subsites were used for calculating the revenue and profit for the confiscated wildlife.

The projected revenue for the whole of Vietnam is the total estimated revenue per year of domestic and international illegal trade + 45% of the total estimated revenue and profit of the study site per year.

Dry products include souvenir products, tiger bone balm, bear bile equal and stuffed animal markets that is 14.5% of the total (Table 8). Therefore, the total revenue is $142 = (855,347 \times 14.2)/85.8$

* Based on key interviewees at the borderlines such as kingpins of traders, checking point's heads and records.

15,000 VND = 1 USD

b) Expenditure on monitoring and enforcement, total budget of FPD and profit of illegal wildlife trade. Figure 9 compares the value of illegal wildlife trade products, the total budget of Vietnam FPD and the total profit from illegal wildlife trade with the expenditure on monitoring and enforcement. The total profit of illegal wildlife trade in Vietnam is 31 times larger than the current expenditure on monitoring and enforcement. It is 3.2 times higher than the total annual budget of FPD. This suggests that the total budget of the central and local governments' international wildlife protecting programs earmarked for monitoring and enforcement of policies against illegal wildlife trade and for FPD staff in Vietnam is very low compared with the profit of illegal wildlife trade. It could imply bigger opportunities for corruption as traders can afford to bribe enforcers who have very low salaries. The illegal traders can invest in measures to cover up their trade while the FPD staff have limited capacities to match these measures because of their low budget.

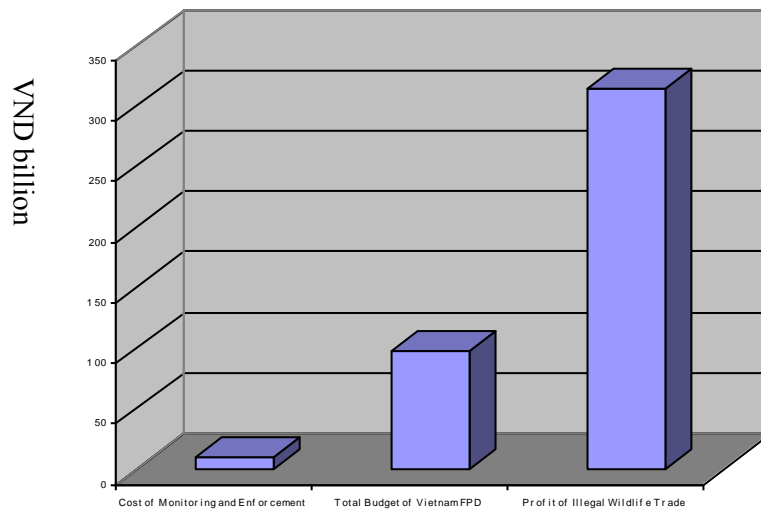


Figure 9 Comparison of Current Expenditure on Monitoring and Enforcement, Total Budget of FPD and Total Profit of Illegal Wildlife Trade in Vietnam.

c) Profit from illegal wildlife trade versus the total fine collection. According to data from Vietnam CITES office, the total collection from fines and the value of confiscated products due to illegal wildlife trade was VND 310 billion (USD 0.0207 billion) from 1997 to 2000. Table 15 and Fig. 10 show the comparison on the profit from illegal wildlife trade which amounts to VND 312 billion (USD21 million) per

year. Thus, profit from illegal wildlife trade is four times higher than the total fine collection. This means that traders engaged in illegal wildlife trade, if fined, can still afford to make payments in this lucrative trade.

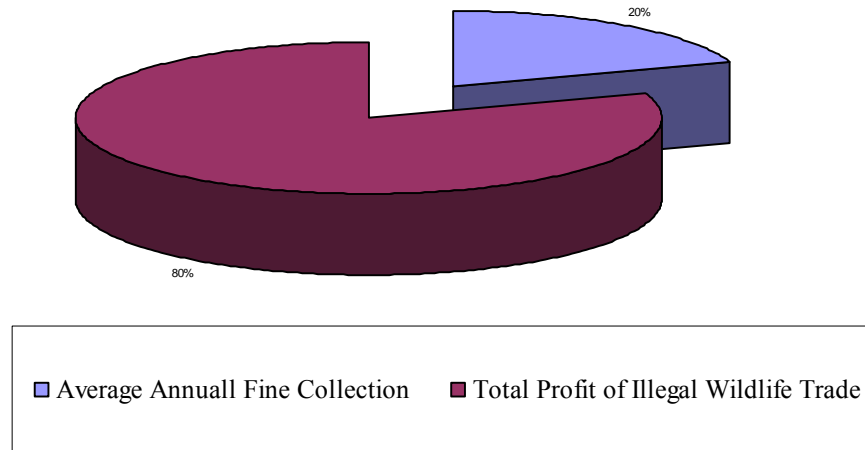


Figure 10. Comparison between Annual Profits of Illegal Wildlife Trade and Fine Collection.

d) Comparison of legal and illegal wildlife trade. In Vietnam, the total revenue of legal wildlife exported is USD 5.5 million for the year 2000 while the total revenue of illegal wildlife trade is USD 67 million (Table 15). Thus, the total revenue from illegal wildlife trade is 12 times higher than legal wildlife trade (Figure 11). This shows that wildlife trade is still uncontrollable.

The results of the projection and comparison point out the lack of funding, manpower and equipment of the monitoring and enforcement of policies on illegal wildlife trade. The fine collection should be much higher than the current value in order to discourage illegal wildlife trade. Under the current „fine’ system, illegal activities continue because of the high profits involved. This is largely because the big traders or kingpins remain untouched. The confiscated goods are usually taken from small porters and traffickers, and not from the kingpins or real owners. Therefore, wildlife protection policies should be targeted at the real owners and kingpins of illegal wildlife trade.

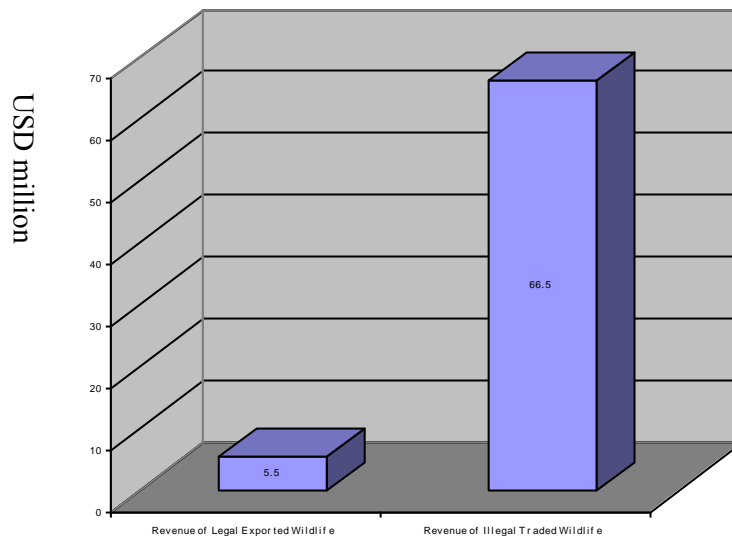


Figure 11. Comparison between Revenue of Legally Exported Wildlife and Illegally Traded Wildlife Per Year, Vietnam.

4.5.2 Factors That Intensify Illegal Trade

Although the government and FPD of Vietnam have tried very hard to implement CITES and governmental protected wildlife policies, success was limited. There were many factors that contributed to the limited success of enforcement and monitoring of law against illegal wildlife trade in Vietnam. These are:

a) **High domestic and international demands for wildlife meat and wildlife products and high profitability of illegal wildlife trade.** After the change of China and Vietnam economies from closed economies to market economies, China became the biggest wildlife consumer in Asia. The improved income as well as living standards of the Chinese and Vietnamese also contributed to the increasing demand for wildlife. This leads to high profits in illegal wildlife trade and is the most important reason that attracts illegal traders. Some traders managed to cover losses from confiscated goods with just one illegal trade. The chief of Tay Ninh FPD said, “Experiences of past years reveal that if there is a high demand in China for any wildlife species, there will be an increase in domestic hunting and trading.”

The price per kilogram of pangolins at the Vietnam-China border is four times higher than the price at Dong Ha-Quang Tri. This suggests that wildlife trade is in very high demand and is very profitable (Figure 12).

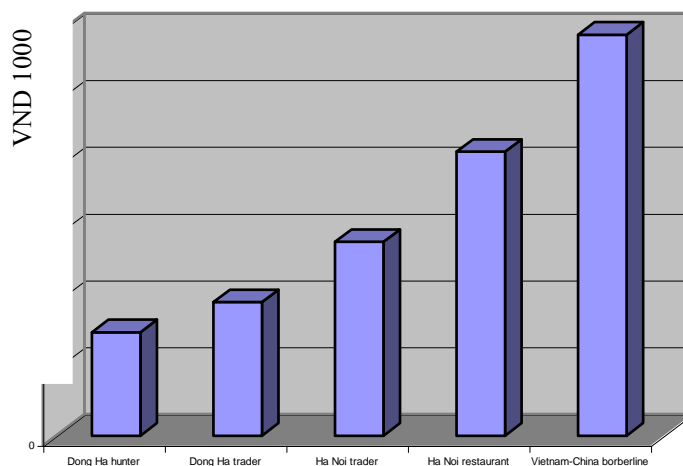


Figure 12. The Price Charged for Pangolins through Network Nodes

b) Little importance given to wildlife protection and inadequate or slow enforcement and implementation of its policies. Some local governments have not placed much importance to the roles of wildlife protection and conservation. Furthermore, they have not really implemented the issued policies well.

Some respondents claimed that “The legal system for controlling and enforcement of illegal wildlife trade is inadequate and inappropriate”.

Official Letter 433/KL.BTTN (1998) based on a period of legislation systems, allows provincial FPDs the authority to issue permits for the exploitation of common wild animals and plants. However, these have the following limitations: (1) While Vietnam controls and monitors only 5%-10% of actual wildlife exploitation (Compton and Le 1998), it is only 3.1%, according to the results of this study; (2) Local FPDs have the right to issue permits for exploitation of local wildlife. What is questionable here is the FPD staff’s limited knowledge on the types of common species in their locality and on their ability to differentiate common species from endangered species; (3) This permit to extract wildlife and regulate the amount of exploitation of wildlife, is vague and not feasible because no one knows exactly the amount of local wildlife available in the province.

c) Lack of resources of inspectors such as manpower, funding, and equipment. The average salary of an FPD staff is VND 450,000 – 650,000 (USD 30 - 43) per month. Each FPD staff has to be responsible for controlling and monitoring an average of 1,400 ha of forest - a difficult task to accomplish. The average estimated profit of each wildlife meat restaurant is about VND 487,000 (USD 32.47) per day, an amount equivalent to the salary of an FPD staff per month. “The FPD staff protect the forest and environment for everyone but who protects the FPD staff?” asked one FPD head.

d) Corruption. Some respondents in Quang Ninh, Ninh Binh and Ha Noi complained that the large illegal wildlife trade networks are helped by influential people. They are involved in the legal procedure for the confiscated goods - and can acquit or interfere with the illegal cases. In a newspaper story titled “What are Poachers Holding?” Pioneer Newspaper reported that poachers holding pens are more dangerous

than poachers holding saws, hammers or traps. Illegal wildlife traders turn a blind eye (for a price) to illegal shipments as reported in Huynh Kien Newspaper in 2000.



(Photo: Nguven Van Song).

Figure 13 Wildlife Products and Award Trophies of Phy Long Company – Exhibited in Ha Noi 2001

From January to August 2002, 10 FPD staff (3.7% of the total) were sacked because they were involved with poachers in the Quang Nam province (Personal Communication 2002). Seventy-six percent of 33 customs officials of Tan Thanh – Lang Son frontier pass - one of the very important illegal wildlife trade exit points from Vietnam to China - took bribes and were involved with illegal traders in recent years as reported in People Newspaper, 17204, August 2002.

e) Government bureaucracy. It is not clear who is responsible for managing a particular area. For example, the Ministry of Agriculture and Rural Development (ARDM) usually manage protected areas but local government units (commune, district and provincial) also manage the land they cover. There are also a number of different government departments that can influence them (e.g. for tourism, road construction). Therefore, many different people have different powers over a particular area (e.g., protected areas). Thus there are many government departments with vague responsibilities. This will create opportunities for corruption and waste natural resources like common property rights or public goods. Thus, this problem creates many constraints and difficulties for FPD to implement issued policies.

f) Habit and Culture. The wildlife eating and drinking habits - part of the culture of Vietnamese, Chinese, Korean, Japanese, and Taiwanese - are also important factors that contribute to increased high demand and profitability of wildlife trade in the region.

g) Lax cooperation among inspecting forces, local governments and FPD. With reference to Table 11, 67% of chiefs and heads of inspection and legislation section of FPD said that there is lax cooperation, while 33% said that improved cooperation is needed among inspection forces and local government with FPD staff.

h) Priority or bias towards timber products. The Vietnamese are not well-versed and have a biased view against support and priority of protecting timber products. With non-timber products such as wildlife, most Vietnamese people consider it as a windfall -

a heaven-sent opportunity which if not caught, will move to other places (Head of Vietnam CITES. Personal Communication 2002).

i) Neighborhood cooperation. Cooperation on reducing illegal wildlife trade between Vietnam, Laos, Cambodia and China is still lax. As a neighbor of Vietnam, Laos is still not a member of CITES. Therefore, controlling and monitoring of illegal wildlife trade through the Vietnam border is difficult and many obstacles still remain.

k) Poverty factors. The vice chief of Nghe An FPD said that 40% of the local people depend on the forest for their livelihood. A local hunter in Vu Quang nature-protected area in Huong Khe–Ha Tinh, said that if he did not hunt wildlife, he would not be able to earn a living. The manager of Vu Quang – Protected Area in Ha Tinh province said that hunters and traders' priority is to ensure that their children did not die of starvation and not to worry about whether trees would be cut or wildlife would be killed.

4.5.3 Economic Regulatory Measures

Taxation

Fine collection was estimated to be one-fourth of the total profit from illegal wildlife trade. Furthermore, the value of illegal wildlife trade confiscated is only 3.1% of the total estimated value of illegal trade. This means that even if the fine is increased from the current rate to twice its value, the illegal traders may still find it profitable. Therefore, high taxes will not discourage traders in the illegal wildlife trade.

Taxation cannot be easily implemented on the illegal wildlife trade in Vietnam. This is because knowledge of trading and the total revenue of wildlife shipment are required. In fact, these two indicators are difficult to define correctly in illegal trading conditions.

Quota on illegal wildlife trade

Quota regulations may be applied only if there is a legal and proper monitoring system for wildlife trade in Vietnam. It should be applied simultaneously with other economic regulations (e.g. penalty, taxation, and others). In Vietnam's case, the quantity control regulations may not be efficient due to the following:

1) Sources of wildlife traded in Vietnam are from various countries (natural protected areas in Vietnam, Laos, Cambodia, Myanmar, Thailand and others). Wildlife trade is not only focused on live wildlife but also on wildlife meat and dry wildlife products. Moreover, live wildlife is dynamic. Therefore, defining the efficiency of wildlife population in the region is very difficult; and

2) The expenditure on monitoring and enforcement of legalizing wildlife trade is very high because it requires close cooperation between inspectors locally and internationally. It is hoped that there will be cooperation of inspectors of countries in Indochina although Laos is still not a member of CITES.

Cooperatives of wildlife

In Vietnam, sources of wildlife are mostly from the Tay Nguyen Plateau and natural protected areas. Cooperatives may be useful in managing the sources of wildlife. The government legally privatizes forestry areas to local people or local cooperatives (giao dat giao rung). Linking farmers' responsibilities vis-à-vis the benefits from wildlife protection is one method to limit illegal wildlife hunting.

The penalty regulation

In recent years, the government has imposed a fine which is twice the value of the shipment. Even with this high penalty, there is little incentive to control illegal activities because only 3.1% of illegal trade can be captured (as this study has shown). There is a need to increase efforts to capture more illegal operations and to increase fines to deter offenders.

A fund to reward informants and to review FPD staff salary system

FPD has no funds to reward informants and FPD staff who help in capturing illegal traders. Moreover, the salary system of FPD staff is very low and is not commensurate with their responsibilities and the high risks that they face in the performance of their duties. The establishment of an effective incentive system is necessary to intensify efforts in reducing illegal wildlife trade. This system will hopefully help reduce collusion between inspectors and illegal traders.

A reward system for informants will also enhance the participation of the people at the grassroots level. It is suggested that some FPD staff be designated as forest policemen to give them more authority.

5.0 SUMMARY AND CONCLUSION

Vietnam's illegal trade in wildlife continues unabated and affects neighbouring countries. Wildlife in Vietnam has become very scarce. Currently, major sources of illegal wildlife trade in Vietnam are protected areas or National Parks. Laos, Myanmar and Cambodia are also important sources of illegal wildlife trade in Vietnam.

This study estimates the total volume of illegal wildlife trade in and out of Vietnam at 3,050 tonnes per year. The largest volume of illegal wildlife trade is through the Vietnam-China border. Around 2,500-3,500 kg of illegal wildlife flows through Mong Cai-Quang Ninh and Lang Son to China daily. About 2,870 kg per day, or half the wildlife traded, is consumed domestically, 80% of it in restaurants.

The peak season for illegal wildlife trade is from September to March, which is the dry season in Vietnam and includes the Chinese New Year. During this season, the volume of illegal wildlife underground trade may increase by two to three times. Most species are sold to China and include snakes, turtles, birds, pangolins, monitor lizards and frogs. The main sources of these species are from Central subsite; South subsite (Quang Nam, Da Nang, Nghe An, Tay Nguyen plateau); Mekong River Delta (Ca Mau, Bac Lieu, Soc Trang), and from Laos, Cambodia or Myanmar.

The estimated daily revenue and profit of these three live wildlife markets are VND 34.2 million (USD 2,280) and VND 5.1 million (USD 340); VND 22 million (USD 1,467) and VND 3.0 million (USD 200) and VND 36 million (USD 2,400) and VND 5.4 million (USD 360) for the north, central and south subsites, respectively. On average, the profits of each illegal live wildlife trader ranges from VND 140,000 (USD 9) to VND 160,000 (USD 11) per day.

The total revenue and profit from wildlife meat restaurants are VND 521 million (USD 34,730) and VND 173 million (USD 11,530) per day, respectively. Ha Noi is the largest wildlife meat consumer; the revenue and profits are VND 184 million (USD 12,230) and VND 57 million (USD 3,800) daily, respectively. Ha Noi is the cultural and political center of Vietnam where wildlife protection and conservation policies are issued and implemented. This suggests that the gap between policies and implementation of wildlife protection is still big.

There are two main distribution channels: international and domestic. International flows are from Laos, Myanmar and Cambodia through frontier passes and various forest tracks to Road 1A to Ha Noi and Ho Chi Minh City; from there to Mong Cai-Quang Ninh or Lang Son; and then to China. Domestic flows are from the Tay Nguyen Plateau, Central subsites, and Mekong River Delta to Ha Noi, Hai Phong, Vinh, Da Nang and Ho Chi Minh City. Two vital export channels are through Mong Cai-Quang Ninh and Lang Son.

The most important marketing channels are: a) from middlemen to wildlife meat restaurants; b) from Vietnamese middlemen to foreign middlemen (Chinese, Korean, Taiwanese, Japanese); and c) from Vietnamese middlemen to the border by illegal wildlife trade kingpins at Mong Cai-Quang Ninh and Lang Son.

Funding, manpower and equipment of the FPD staff who are mainly responsible for controlling and monitoring wildlife trade in Vietnam are inadequate. On average, each direct FPD staff has to be responsible for 1,400 ha of forest. This is even higher in some provinces that are main sources of wildlife such as Cao Bang, Ha Giang, Lai Chau, Nghe An, Quang Binh, Kon Tum and Gia Lai. The estimated required manpower, equipment and funding of FPD should be increased from 1.5 to 2 times when compared with the existing level. Moreover, the manpower, equipment and funding are organized and distributed irrationally among locations and internal sections of FPD.

To avoid inspection, illegal traders employ various tricks such as using wedding cars, ambulance cars, prisoner cars, funeral cars as well as resorting to corruption, threats and attacks on FPD staff by influential people.

The operating budget allocated to patrol forces is only 6.6% of the total. The total estimated cost of monitoring and controlling is from VND 9.5 to 10.5 billion (USD 634,000 – USD 700,000) per year. The proportion of monitoring and enforcement cost earmarked to the patrol force was only 3.6% although the patrol force discovered and solved about more than 90% of wildlife species trading cases. The total profit of illegal wildlife trade in the study site is about VND 79 billion (USD 5.3 million) per year which does not include the estimated profit of international illegal live wildlife trade. This is eight times larger than current expenditures on monitoring and enforcement by FPD and other donors in the whole country. Projected for the entire country, the total revenue and profit of illegal wildlife in Vietnam are more than VND 997 billion (USD

67 million) and VND 312 billion (USD 21 million) per year, respectively. The total profit earned from illegal wildlife trade as compared with the total existing cost of monitoring and enforcement and total budget of Vietnam FPD is about 31 and 3.2 times larger, respectively. The total profit of illegal wildlife trade is four and 12 times larger than the existing fine collection and legal exported revenue, respectively. The estimated official confiscated value of illegal wildlife trade accounts for about only 3.1% of the total trade value. This rate is very low and suggests inefficiency of the inspection system.

The main factors that intensify illegal wildlife trading in Vietnam include high domestic and international demand for wildlife meat and products; very profitable illegal wildlife trade; the low priority placed on wildlife protection; lax implementation of wildlife protection policies by authorities; as well as lack of FPD manpower, funding and equipment.

Wildlife trading continues because the authorities and local governments have not implemented wildlife protection policies. Moreover, the authorities have not paid careful attention to the value of wildlife species and the problems of their extinction. The kingpins of illegal wildlife trade and wildlife restaurants have been in existence for a long time. But the authorities and wildlife protection laws seem to have no effect on them.

6.0 POLICY RECOMMENDATIONS

The following actions and policies are recommended to achieve a significant reduction in illegal wildlife trade in Vietnam and the region. However, no policy will be effective if applied alone. A high level of commitment by Vietnamese institutions and government such as FPD, police, customs officials, local and central governments is needed.

a) Strengthen the implementation of penalties and enhance monitoring and enforcement capacity. This study concluded that economic measures such as taxation, quota, legalization and ownerships may not be appropriate to control illegal wildlife trading. Primarily, this is because of the limited capacity and capability of the FPD to carry out intensive monitoring. The resources they have are simply too limited. Furthermore, the high profits from wildlife trade enable traders to afford fines and bribes. This indicates the need to review the structure of the fines and the incentive/salary structures of the FPD forces. The authorities of Vietnam should strengthen this discovery and monitoring capacity, and increase the level of fines. This would help remove one of the strongest driving forces of the illegal wildlife trade.

b) Increase the level of training, manpower, funding and equipment for checkpoints and patrol forces. This study showed that Mong Cai-Quang Ninh, Lang Son (exit points) Ninh Binh (bottleneck), Ha Noi and Ho Chi Minh City are critical nodes and markets for illegal wildlife trade in and out of Vietnam. Lack of resources for monitoring and enforcement are main factors that lead to inefficient wildlife protection and conservation policies in Vietnam. With only 6% of the total staff and 3.6% of the total cost of monitoring and enforcement, there is limited capacity in the field to adequately monitor illegal activities in the area. Therefore, the patrol force should be given priority in terms of strengthening manpower, funding and equipment.

c) Use incentives (both cash and non-cash) for the regulators, patrol officers, and informants to intensify efforts against illegal wildlife trading. The average salary of FPD staff ranges from USD 30 to USD 43 per month. On average, each FPD staff and direct FPD staff have to be responsible for 1,400 and 1,795 ha of forest, respectively. It is impossible to cover such a huge area effectively. The total profit from illegal wildlife is very high, about 3.2 times larger than the existing total budget of Vietnam FPD per year. The total profit of wildlife restaurants per day is equivalent to the average salary of an FPD staff per month - an important reason that is encouraging not only illegal traders but also inspectors to violate the wildlife protection policies and join hands with the illegal traders.

d) Pay more attention to wildlife meat restaurants in domestic markets and the border between Vietnam and China. There are more than 3,000 tonnes of live wildlife trade in and out Vietnam per year, of which about half is consumed domestically. Restaurants account for 80% of this. Mong Cai-Quang Ninh and Lang Son are critical exit points for live wildlife out of Vietnam. If wildlife meat restaurants in domestic and the two above exiting points are closed, the majority of the wildlife species demand would be eliminated.

e) Strengthen manpower, funding and equipment to monitor and control illegal trading during the peak season. The peak season for wildlife trading is from September to March, when the volume of illegal wildlife increases two to three times.

f) Use education and information campaigns to influence the wildlife eating and drinking culture of the Vietnamese people. In the long run, reducing the illegal wildlife trade depends on a combination of enforcement to reduce supply and public education to decrease demand. Information campaigns to discourage wildlife trade should be targeted at people who set bad examples by patronizing the trade. Chiefs of communes and border policemen also participate in illegal wildlife hunting and trading. The media should be used to reach out to the people so that demand for wildlife products could be reduced.

g) Strengthen cross-border cooperation between Laos, Cambodia, Vietnam and China on local, regional and international levels to reduce the problem. This study shows that most of the wildlife traded in or through Vietnam to China has actually been taken from countries like Laos, Cambodia and Myanmar. Dialogues on cooperation to limit smuggling along borders should be held between neighboring countries and followed up by concrete actions. Policies to support such actions should be made, duly signed and approved by all countries concerned. This action can be done through CITES. International CITES should put pressure on Laos for this country to become a member as it is a major source of wildlife traded illegally through Vietnam.

h) Use wildlife farming/culture as one way to reduce prices of wildlife products. To reduce the demand for wildlife products, the authorities could encourage farming of some common species of wildlife (such as crocodile, soft-shell turtle and common snakes) which can reproduce and live well in man-made conditions. However, keeping and extracting wildlife that cannot reproduce in man-made conditions including endangered turtle species, bears and tigers has to be strictly prohibited

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APPENDIX 1

INTERVIEW GUIDE FOR POLICY-MAKERS AND CHIEFS OF FPD

Good day! I'm. NGUYEN VAN SONG, a lecturer/researcher of the faculty of the Hanoi Agricultural University # I. I'm here to conduct a study about wildlife species trading and wildlife species conservation. As you know, one of the serious problems we are facing and will have to face is the decreasing environmental and resource quality in the world, in the region, and in the country. Of particular note is the domestic wildlife species hunting, trading, and smuggling to China in recent years.

One part of this study is conducted to describe and evaluate the situation of wildlife species trading in Vietnam; hunting, trading regulation; wildlife protection law implementation; wildlife species trading enforcement and monitoring.

I will be extremely grateful if you can spend some of your precious time to answer the following questions. Your answers will be of great help to my study.

- 1 Name: _____
Age _____
Position _____
Number of years in this position _____
Brief description of work/responsibility:
Address:
Commune _____ District _____ Province: _____
- 2 In your opinion, what reasons lead to wildlife species trading that is continuing and intensifying?
- 3 Do you think that the regulation policies are effective? Please explain the basis of your answer?
- 4 Are there adequate manpower to monitor/regulate-wildlife species trading in your area of coverage? If not, what is the existing level (number) of manpower and how much or (rate) do you think will be needed to effectively control such trade?
- 5 Regarding financial regulation and monitoring of illegal trading of wildlife species. (How much is existing level of funding and how much would be needed per year).

- 6 How many staff are working in the forest protection department?
_____person
- 7 Total wage fund of all forest protection department annually?
_____dong ____ rational or ____irrational ____ should be improved, so ____ how much
- 8 Other compensation (location, occupation) monthly
_____dong/person. ____rational or ____irrational
- 9 How much is the budget for equipment annually? _____dong ____rational or ____irrational
- 10 How many local governments invest for wildlife species annually for conservation: (estimate)_____
- 11 What agencies are involved in the task of controlling trade of wildlife species and what is each agency's responsibility?

What aspects do you think should be improved?
- 12 How would you characterize the level of awareness of the Vietnamese on wildlife species Preservation and its importance?
- 13 What activities do you do to inform and educate the citizens about conservation of wildlife species in this area? Is there a national campaign to educate the people on the importance of wildlife species?
- 14 What is the level of cooperation with neighboring countries in controlling illegal trade of wildlife species? Laos: closelynot closely.....should be improved

Cambodia: closelynot closelyshould be improved

China: closelynot closelyshould be improved
- 15 What and how do you assess the roles of Multilateral Environmental Agreements (e.g., CITES; WWF; FFI, and others) in Vietnam?

very badbad.....normalgood.....very good
- 16 Do Multilateral Environmental Agreements invest or support this area against illegal wildlife species trading and education campaigns annually? ____Yes ____no; if yes how much_____of which: NGO?_____
- 17 Which species are mostly traded illegally? Rank them from most traded to least traded?
- 18 How would you rate the effectiveness of this penalty framework?
- 19 What equipment do you need to make your task more effective?

- 20 Do you think that the policies supporting control of illegal trade of wildlife species in your province are adequate? If not, what additional policies/policy reforms need to be made?
- 21 Annually in this province (city), are there any campaigns for limiting or stopping the illegal wildlife trading? ____yes ____no; If yes _____ how many times? _____
- How much (dong). Where does money come from? _____
- 22 Could you clarify what species is EN and what is not?yesno
- How do you assess these programs? _____
- 23 Could you please give me all the documents and reports about wildlife species trading in recent years in Vietnam and the region?

Thank you for your cooperation!

APPENDIX 2

INTERVIEW GUIDE FOR STAFF OF FOREST PROTECTION DEPARTMENT.

Good day! I'm _____, a lecturer/researcher of the faculty of the Hanoi Agricultural University # I. I'm here to conduct a study about wildlife species trading and wildlife species conservation. As you know, one of the serious and important problems we are facing and will have to face is the decreasing environmental and resource quality in the world, region, and nation. Of special interest is the domestic hunting and trading of wildlife species to China in recent years.

One part of this study is conducted to describe and evaluate the situation of wildlife species trading in Vietnam; hunting, trading regulation; wildlife protection Law implementation; wildlife species trading enforcement and monitoring.

I will be extremely grateful if you can spend some of your precious time to answer my questions. Your answer will be of great help to my study.

- 1 Name: _____
Age _____
Position _____
Number of years in this post:
Brief description of work/responsibility:
- 2 Address:
Commune.....District.....
Province.....
Country.....Tel:.....Email:.....
- 3 From which areas in Vietnam are the wildlife species coming from? Please rank the areas in terms of volumes of illegally traded species from most to least.
- 4 Which species are mostly traded illegally? Rank them from most traded to least traded?
- 5 Who are usually involved in illegal trading (seller, trader, buyer) of wildlife species? From which part of Vietnam do they come from? How will you characterize them?
Seller/(poachers):

Traders/middlemen

Buyers:

- 6 How and what penalties would you impose on those caught in illegal trading?
- 7 How would you rate the effectiveness of these penalty frameworks? _____
- 8 How do you assess and can you suggest the procedures for monitoring and enforcement?
- 9 How would you rate the adequacy of manpower in your office to understand this task?
- 10 How would you think about the salary system? _____rational
_____irrational
- 11 What do you think of the compensation allowance system?
_____rational _____irrational
- 12 Could you clarify what species EN is what is not? _____yes_____no
- 13 What factors would discourage or limit your staff to undertake their task?
- 14 I would appreciate it if you could provide all your documents and records of wildlife trading in your station.

Thank you for your cooperation!

APPENDIX 3

INTERVIEW GUIDE FOR TRADERS INVOLVED IN WILDLIFE TRADE.

I) At the wildlife species markets (for wholesalers and retailers)

Hi! I would like to buy some live animals or products from you! Could you provide me with some information?

<i>TYPES</i>	<i>SOURCE OF ANIMALS (PRODUCT)</i>	<i>PRICE</i>		<i>AMOUNT</i>		<i>TOTAL</i>	
		<i>VND/KG/ UNIT</i>	<i>VND/HEAD</i>	<i>WEIGHT (KG)</i>	<i>HEAD OR UNIT</i>	<i>AMOUNT (KG OR HEAD)</i>	<i>VND</i>

1 To whom do you usually sell these animals?

TYPES	PRICE		AMOUNT		TOTAL	
	VND/KG	VND/HEAD	WEIGHT (KG)	HEAD OR UNIT	AMOUNT (KG OR HEAD)	VND

- 2 If I want to buy huge amounts of these animals or their products, how much can you supply?Kg.....Head?
- 3 How much on average could you sell _____per day?_____ per week? _____per month?
- 4 Could you estimate the rate of net income you get from the total revenue per day (week or month after taxation?)
- 5 Can you estimate how many kg (head or unit) of this animal you usually sell per month?
.....KgHead
- 6 Can you estimate how many sellers are there in this market?
- 7 Where do these products come from?
- 8 What month in a year could you sell a lot of these animals..... what months are the least sold.....
- 9 How many markets are engaged in animal market trading in this province (city)?
- 10 Are there usually government people monitoring trade of animals in this market? What do they do when they come here?
- 11 How many years have you been trading?_____
- 12 Which types of animals are the easiest to obtain?

- 13 What types of animal and animal products give the highest profit

- 14 What is rate of profit in total revenue (after taxation) can you earn from selling these kinds of animals _____%

II) At the wild meat restaurants

Hi!

- 1 Let me see the menu of wild meat? if possible? or what kind of wild meat can your restaurant serve? _____
- 2 Where, and from whom do you usually collect/buy the live animals? _____
- 3 How much is one kg (or ration or dishes) _____ (This question will be asked of the wild meat restaurants do not present the wild meat in the menu to avoid inspectors)
- 4 How many dishes (ration) can you make from 1kg or head of this animal?

- 5 How much is one kg or a head or unit of animal?

- 6 How many heads (kg) can you cook _____ per day ? _____ week _____ year
- 7 Can you estimate the average rate of profit that you earn in the total revenue (after taxation) _____%
- 8 Who are your usual customers? _____
- 9 How many customers can your restaurant serve at the same time?

- 10 Do you know if trading of these animal species are prohibited by law? If yes, how did you come to know of this?
- 11 Are there government people coming to this restaurant to check on your use of these animals? ____ If yes, have there been a penalty imposed? How much is the penalty? Why do you still continue with this job?
- 12 How many restaurants like yours are there _____ larger _____ smaller _____ in this village (streets)
- 13 How many village (streets) like this are in this town or province?

III) Traditional medicine shops

- 1 What kinds of bone balm (cao) do you have? _____
- 2 How much is 100 g of real tiger bone balm? _____
- 3 How many grams could you make from 1 kg of tiger bone? _____
- 4 How much processing cost do you incur during the cooking of a Tiger skeleton?

- 5 How many kg of real tiger bone balm do you sell ___per week___ month
___year?
- 6 How many people in this street can make tiger bone balm like
you? _____
- 7 How many people in this town (City) can make tiger bone balm like
you? _____
- 8 Where do you collect or buy tiger bone? _____ from
whom _____
- 9 How much is one kg of tiger bone balm? _____ dong
- 10 Who are your usual customers? _____

IV) At souvenir shops

What kinds of souvenir goods were made from wildlife, for example; ivory, shell of turtle, stuffed animal, teeth of tiger and bear?

- 1 Can you list for me all kinds of products that were made from wildlife?

<i>TYPES OF PRODUCTS</i>	<i>UNIT</i>	<i>AMOUNT</i>	<i>PRICE</i>	<i>SOURCE</i>

- 2 How many of this product could you sell per: ___ day ___ week ___ month
___ year
- 3 Can you estimate the rate of net income you can get from the total revenue of
this kind of product? _____ %

V) For bear-keeping owners

- 1 How many bears are you feeding? _____ head
- 2 How much is one head? _____ Dong
- 3 How much do you daily buy food for each bear? _____ Dong
- 4 How many bears can one woker serve? _____ head
- 5 How much do you pay for a worker per month? _____ Dong
- 6 How much do you pay for gall extracting techniques per time _____ Dong
- 7 How many times per year can you extract gall from each bear _____ Dong
- 8 How many cc can you get from each extraction? _____ cc
- 9 How much is the land rental for bear cages? _____ Dong
- 10 How much is one cage of bear? _____ Dong
- 11 Could you estimate how many years is the lifetime of a bear?
_____ years

APPENDIX 4.

VOLUME OF CONFISCATED ILLEGAL WILDLIFE IN THE STUDY SITE 1997-2002.

<i>PROVINCES OR CITIES</i>	<i>YEAR</i>						<i>TOTAL (Kg)</i>
	<i>1997 (Kg)</i>	<i>1998 (Kg)</i>	<i>1999 (Kg)</i>	<i>2000 (Kg)</i>	<i>2001 (Kg)</i>	<i>2002* (Kg)</i>	
Cao Bang	68	289	130	432	1,029	390	2,338
Ha Giang	40	51	21	27	43	36	218
Lang Son	3,995	5,476	2,558	3,713	4,076	3,964	23,782
Lai Chau	448	140	1,035	399	217	256	2,495
Lao Cai	119	478	182	306	160	249	1,494
Quang Ninh	13,774	4,085	8,746	7,333	10,149	8,818	52,905
Ha Noi	2301	15,281	4,637	5,872	2,863	6,191	37,145
Hai Phong	400	150	1,950	801	756	811	4,868
Ninh Binh	8,072	8,041	6,638	6,343	10,089	13,302	52,485
Nghe An	10,311	13,521	10,027	9,120	8,575	25,823	77,377
Ha Tinh	1,320	2,598	2,311	3,342	3,278	2,705	15,554
Quang Binh	15,899	17,649	8,540	8,574	24,043	11,357	86,062
Quang Tri	1,623	750	1,432	786	1,514	1,221	7,326
Da Nang	561	3,454	733	430	35	1,043	6,256
Quang Nam	12	630	629	294	967	1,047	3,579
Kon Tum	85	60	25	250	20	88	528
Gia Lai	1,406	3,136	1,983	2,285	4,013	2,565	15,388
Tay Ninh	726	376	2,853	1,538	1,639	223	7,355
H.C.M City	5,545	850	450	225	603	1,535	9,208
Can Tho	507	1,136	1,878	18	390	786	4,715
Total	69,209	80,149	58,757	54,088	76,460	82,410	411,078

Source: Annual reports of FPDs Note: * estimated data of 2002 from the actual data of the first quarter of 2002 and average of previous five years.

APPENDIX 5

LIST AND MAIN TARGETS OF WILDLIFE PROTECTION POLICIES IN RECENT YEARS, VIETNAM.

No	POLICIES	DATE OF ISSUE	TARGETS
1	Decision 276/QD	June 1989	Specifically forbade the hunting of 38 species
2	18/HDBT	January 1992	Determine the list of rare and precious flora and fauna and regulations for their management and protection. It strictly forbids the hunting of endangered and threatened species listed in the Decision and the destruction of any flora also listed.
3	Directive 130/TTg	March 1993	On management and protection of rare and precious flora and fauna. Provincial Committees are also requested to cooperate with the Ministry of Agriculture and Rural Development (ARDM). Provincial Committees are requested to govern their agencies in implementing these legislations. Illegal show, trade and transport of rare and precious species are prohibited.
4	Official letter 551LN/KL	March 1994	On enhancing the protection on and conservation of wildlife.
5	Decree 39/CP	May 1994	Define functions, duties and rights of FPD
6	Decree 02/CP	January 1995	On services, trades and commodities that are prohibited or requested with permits
7	Circular 04/NN/KL-TT	in 1995	Provide guidance for the implementation of Decree 02/CP
8	Directive 359/TTg	May 1996	Points out urgent measures to protect and develop wild flora and fauna. This Directive prohibits advertising, and showing of wildlife meat in restaurants.
9	Decree 77/CP	November 1996	On framework of fines on violations of management and protection of forest and forestry products. Article 10 state that poaching of animals without permits granted by authorized state agencies or in contravention of regulations on forest management (protected species, restricted areas, breeding seasons and others)
10	Circular 01/NN-KL-TT	in 1997	Provide guidance in the implementation of Decree 77/CP on fines on violations of management and protection of forest and forestry products

continued

11	Official Letter 433/KL.BTTN	December 1998	Permit the exploitation of common wild animals and plants. It regulates what the common species are, it also states the principles for granting permits for poaching common species, and condition under which organizations and individuals can apply for permits.
12	Decision 47/1999/QD- BNN-KL	March 1999	Provides the guidance for procedures of inspection of transport, production, and trade in timber and forestry products. Article 1, point 8 mentions about wild animals, which include: common species and species protected by Decree 18/HDBT and their products, and captive bred species and their products. Article 10 states the documents required for transport of wild animals.
13	Official Letter 390/KL-BTTN	September 1999	Guides the registration of crocodile captive breeding farm
14	Decision 242/QD-TTg	December 1999	Regulates import and export of commodities in 2000. Appendix 1 lists commodities that are prohibited from import and export. In point 6, imports and exports of rare and precious wild flora and fauna are regulated by the ARDM.
15	Decision 43/QD-TTg	in 1999	About establishing Vietnam-CITES office
16	Official letter 637/KL-BTTN	November 2000	On management of wild animals and plants. It provides guidance on implementation of regulations, principles of wild animals management in 2000, and basic concepts like captive breeding, captive breeding farms, F1 and F2 generations, and rat's natural enemies.
17	Decision 140/2000/QD- BNN-KL	December 2000	Article 1 issues the list and article 2 informs about the exploitation of species included in this list from the wild that is strictly prohibited.
18	Decision 46/QD-TTg	in 2001	On the management of import and exports from 2001 to 2005. Appendix 1 lists commodities prohibited from imports in 2001 – 2005, in which, point 6 lists all wild animals and rare and precious wild animals and plants that are prohibited. Appendix 3 lists all commodities under the management of the Ministry of Agriculture and Rural Development, which include all wild animals and rare and precious wild plants.
19	Circular 62	June 2001	Guides the implementation of Decision 46/TTg for commodities managed by the ministry. Article 2 guides the export of wild animals and rare and precious wild animals and plants.
20	Decree 11/2002/ND- CP	in 2002	About management, export and import of fauna and flora

continued

Appendix 5 concluded

20	Decree 11/2002/ND- CP	in 2002	About management, export and import of fauna and flora
21	Decree 17/2002/ND- CP	February 2002	Adjusts some articles of the Decree 77/CP (November 1996) about fining frameworks.

Source: FPD and Vietnam–CITES offices