

WILDLIFE TRADING IN VIETNAM: SITUATION, CAUSES, AND SOLUTIONS

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ABSTRACT

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 objectives of this study are: to assess the extent of wildlife trade in Vietnam; to estimate the traders' gains in wildlife trade; to identify constraints for effective implementation and enforcement of wildlife protection policies; to estimate the expenditure for effective implementation of wildlife protection policies; and to provide recommendations for effective implementation, enforcement and management of wildlife in Vietnam. To gain the above objectives, the study used environmental economic, marketing methods.

The report concluded about the extent of legal and illegal wildlife trade (volume, revenue, profit); this study also determined the budget of the government assigned for illegal wildlife trading controlling, and enforcement. The study also 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.

Key words: Illegal and legal, wildlife trade, endangered species.

1. INTRODUCTION

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). 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

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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. 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.

Wildlife trading in Vietnam is a problem of not only domestically extracting and

consuming wildlife but also the expanding problem of regional and international levels. Vietnam has been a "cross bridge" of wildlife trade from Indochina to China, Korea, Japan (Ha et al., 2002, 2004). Expansion of wildlife trade is the main reason of the rapid exhaustion of fauna and flora such as Meo (Felidae spp.), Gau (Ursus spp.), Te te (Manis spp.), Lan lai (Paphiopedilum spp.), Tram huong (Aquilaria spp.) (Ha et al., 2004; Lam & Ha 2005).

In recent years, Vietnam has become an important center of trading, captive breeding and consumption of wildlife in Asia (The National Action Plan, 2004). Wildlife trading is developing with 40 species of coleoptera and 90 species of butterfly. Also, 3,500 species of fauna and flora and about 20,000 tons of other flora have been used as medicine (The National Action Plan, 2004; Ha & Truong, 2004).

Summing up, Vietnam was a rich source of wildlife in past years, but currently it is a developing 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.

The objectives of this study are: to estimate the gains from wildlife trade, to establish its extent, and analyze the reasons for the ineffective implementation of wildlife protection policies in Vietnam; and to provide recommendations for effective implementation, enforcement and management of wildlife in Vietnam.

2. METHODS

Respondents of the Study

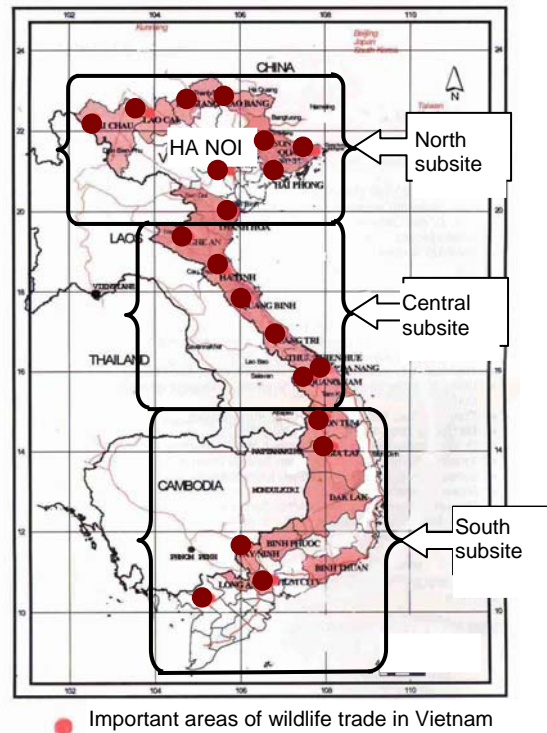


Figure 1. Map of Vietnam Showing the Study Sites Surveyed, Provinces or Cities

For this study, 20 hotspots out of a total of 61 cities and provinces in Vietnam were surveyed (Figure 1). Both primary and secondary data were utilized to achieve the objectives of the study. Collecting and surveying data for this study is very dangerous and sensitive. Author and interviewers had to play-act as consumers during interviewing period. Primary data were taken from wholesalers and retail wildlife traders and hunters, consumers, Forest Protection Department (FPD) staff, policemen, market managers, and at study areas through personal interviews using a structured interview schedule. Data were also collected from traditional Vietnamese medicine shops, tourist souvenir shops, traditional medicine producers, hotels and restaurants serving wildlife dishes and middlemen. The marketing channels and trading flows of wildlife species were studied using the "backward mapping technique". Besides these, scientists, drivers, biologists, heads of CITES, WWW, TRAFFIC, FFI, UNDP staff, authorities,

etc., were also interviewed for the necessary information.

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

There are about nine possible channels of products from hunters to ultimate consumers (Figure 2). 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.

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 domestic consumption, and consumption 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.

Estimate of Volume, Revenue and Profit

Markets and marketing channels 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 plus number of restaurants in local areas plus number of stuffed wildlife shops in the street with the average amount of product 'j' sold per period of time (daily, monthly).

3. RESULTS AND DISCUSSION

Situation

Live wildlife legal and illegal trade in Vietnam

In recent years, wildlife trading in Vietnam has been expanding and changing the structure of the supply. Between the years 2003 to 2005, Vietnam CITES approved 3,083 permits for exporting, importing and re-exporting wildlife. However, Vietnam largely exports wildlife (Table 1).

Table 1. Legal wildlife exported, imported, and re-exported (2002 - 2005)

Year	Species	Export		Import		Re-export	
		Unit	Amount	Unit	Amount	Unit	Amount
2002	Mamalia	head	4.602				
	Reptile	head	17.690			head	9.143
	Mollusca	head	75.153			head	28.650
2003	Mamalia	head	5.770			head	4.210
	Reptile	head	29.360			head	4.110
	Amphibia	kg	832.503				
	Mollusca	head	89.300				
	Coral	kg	314.711				
2004	Mamalia	head	6.368	head	5.985	head	1.400
	Reptile	head	21.010				
	Amphibia	kg	823.066			kg	
	Mollusca	head	78.074			gr	129.500
	Coral	kg	96.597				
2005	Mamalia	head	7.632	head	2.004	head	2.000
	Reptile	head	19.221	head	9.508	head	65.300
	Amphibia	kg	986.972				
	Mollusca	head	147.814	gr	915	head	91.600
	Coral	kg	117.590				
	Fish	head	35.030				

(CITES Vietnam, 2007)

According to the estimate, there are about 3,000 to 4,000 tonnes of live wildlife and about 1,000,000 head which are illegally traded in and out of Vietnam. The total profit of illegal wildlife trade in Vietnam is about 21 million USD per year. Vietnam is still legally exporting wildlife (Table 1).

Based on the statistical data of the FPD - the Ministry of Agriculture and Rural Development (MARD), the total confiscated wildlife trade is 181,670 head, and 634,932 kg. The most confiscated cases happened in year 2002 with 2,051 violated cases, equivalent to 39,509 head and 89,078 kg. The violated case amount is not decreasing in recent years.

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, and 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 and 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

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 meats 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.

Ha Noi is still the biggest center of wildlife meat trade with an estimated total revenue of 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 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. The 13 species reserved for wildlife restaurants’ menu at Le Mat - Hanoi 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.

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 USD 2,400 to USD 2,670 per day. 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.

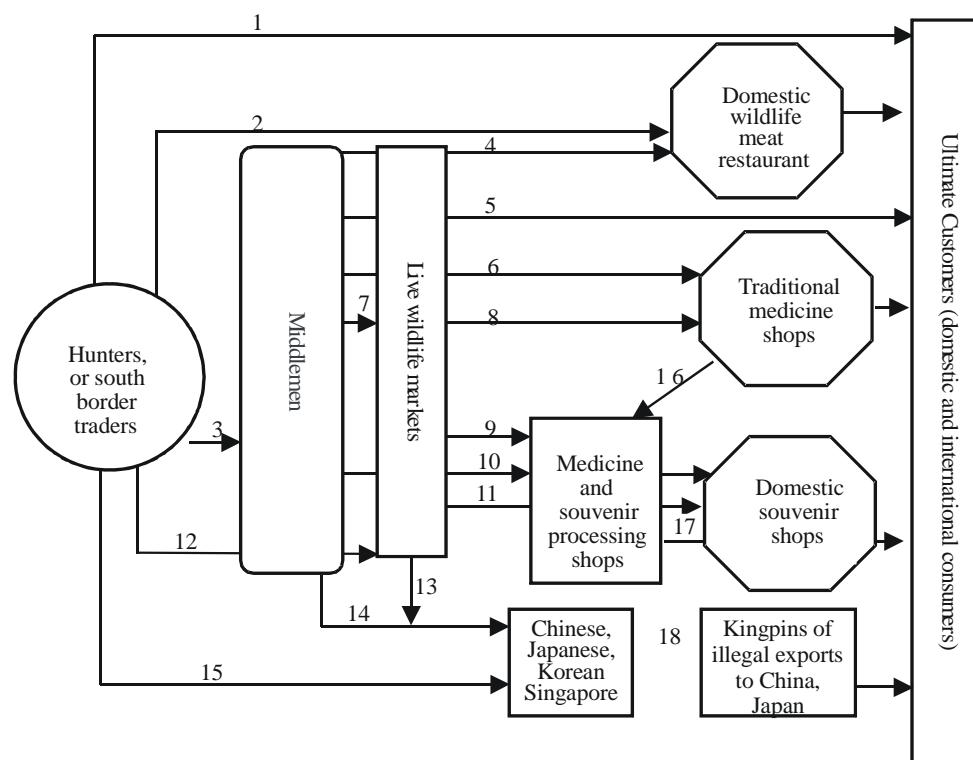


Figure 2. Marketing Channels of Illegal Live Wildlife and Dry Products Trade in Vietnam

Profit from illegal wildlife trade versus the total fine collection

According to data from the Vietnam CITES office, the total collection from fines and the value of confiscated products due to illegal wildlife trade was USD 21 million from 1997 to 2000. Fig. 2 show the comparison on the profit from illegal wildlife trade, which amounts to USD 21 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.

Table 2. Violated cases and confiscated cases in Vietnam (1997 - March/2007)

Year	Confiscated cases	Confiscated amounts	
		Head	Amount (kg)
1997	476	10,548	42,235.4
1998	1,159	10,466	94,371.3
1999	1,303	16,741	57,908.2
2000	1,727	9,934	57,003.2
2001	1,551	15,570	66,184.3
2002	2,051	39,509	89,078.0
2003	1,801	35,689	54,613.0
2004	1,525	22,239	46,080.0
2005	1,383	7,406	65,169.0
2006	1,528	10,429	51,176.0
3/2007	254	806	11,114.0
Total	14,758	181,670	634,932.4

Source: FPD - MARD 6/2007

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. Thus, the total revenue from illegal wildlife trade is 12 times higher than legal wildlife trade (Figure 3). This shows that wildlife trade is still uncontrollable.

The results of the projection and comparison point out the lack of funding, manpower and equipment the monitoring and enforcement of policies on illegal wildlife trade. The fine for 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.

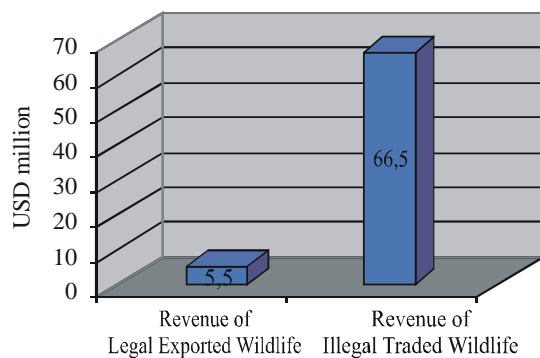


Figure 3. Comparison between Revenue of Legally Exported Wildlife and Illegally Traded Wildlife Per Year, Vietnam.

Causes and 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:

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 recover 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”.

Little importance given to wildlife protection and there is inadequate or slow enforcement and implementation of its policies.

Some local governments have not placed much importance on 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 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.

Lack of resources of inspectors such as manpower, funding, and equipment

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 USD 33 per day, an amount nearly equivalent to the half of salary of an FPD staff per month. "The FPD staff protects the forest and environment for everyone but who protects the FPD staff?", asked one FPD head.

Government bureaucracy

It is not clear who is responsible for managing a particular area. For example, the Ministry of Agriculture and Rural Development (MARD) usually manage protected areas but local government units (commune, district and provincial) also manages the land that they cover. There are also a number of different government departments that can influence them (e.g. for tourism or 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. This problem creates many constraints and difficulties for the FPD to implement issued policies.

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.

Lax cooperation among inspecting forces, local governments and the FPD

With reference to Table 1, 67% of chiefs and heads of inspection and legislation sections of the FPD said that there is lax cooperation, while 33% said that improved cooperation is needed among inspection forces and local government with the FPD staff.

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 on to other places (Head of Vietnam CITES. Personal Communication 2002).

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 illegal wildlife trade

through the Vietnam border is difficult and many obstacles still remain.

Poverty factors

The vice chief of the Nghe An FPD said that 40% of the local people depend on the forest for their livelihood. A local hunter in the 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.

Solutions

Policy and enforcement instruments

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 the government such as the FPD, police, customs officials, local and central governments is needed.

- *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.

- *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.

- *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 45 to USD 50 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.

- *Pay more attention to wildlife meat restaurants in domestic markets and the border between Vietnam and China.* There are more than 3,500 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.

- *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.

- *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.

- *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 neighbouring 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.

- *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

Economic instruments

- 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:

+ 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

+ 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.

- 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 the FPD staff salary system

The FPD has no funds to reward informants and FPD staff who help in

capturing illegal traders. Moreover, the salary system of the 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.

4. 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 3,500 to 4,000 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 total revenue and profit from wildlife meat restaurants are about USD 34,730 and USD 11,530 per day, respectively. Ha Noi is the largest wildlife meat consumer; the revenue and profits are USD 12,230 and USD 3,800 daily, respectively. Ha Noi is the cultural and political centre 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.

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 the 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 USD 634,000 to 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 more than 90% of wildlife species trading cases. The total profit of illegal wildlife trade in the study site is about 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 USD 67 million and 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.

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