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Citation: Cao Ngoc, Anh and Wyatt, Tanya (2013) A Green Criminological Exploration of Illegal Wildlife Trade in Vietnam. *Asian Journal of Criminology*, 8 (2). pp. 129-142. ISSN 1871-0131

Published by: Springer

URL: <http://dx.doi.org/10.1007/s11417-012-9154-y> <<http://dx.doi.org/10.1007/s11417-012-9154-y>>

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A green criminological exploration of illegal wildlife trade in Vietnam – Anh Cao Ngoc, Tanya Wyatt

Abstract

Illegal wildlife trade is a pervasive and destructive crime that is contributing to biodiversity loss and species extinction around the globe. This is particularly true in Vietnam where, it is proposed, the convergence of four factors creates the conditions for the illegal wildlife trade to flourish. The human-centered approach to Vietnam's diverse ecosystem, historic consumption of wildlife, rapidly developing economy, and embryonic environmental legislation has resulted in the continued degradation of a unique and important environment. Furthermore, until recently criminological research of such green crimes has either been lacking or equally human-centered. This article details the nature and extent of wildlife trafficking in Vietnam and introduces to this context an expanded notion of harm, including the environment and other species, of a green criminological perspective to this exploration. The aim is that by proposing a new framework in which to evaluate the illegal wildlife trade and other green crimes in Vietnam, new and innovative strategies addressing the convergent factors might be developed that will aid in stopping the illegal wildlife trade and other green crimes.

Key Words – Vietnam, Green Criminology, Illegal Wildlife Trade, Wildlife Trafficking

Asian Journal of Criminology (2013), 8 (2), pp.129-142

The conservation of endangered fauna and flora is a critically important and controversial issue at both national and international levels. Irrespective of concerted efforts of independent organizations, government agencies, and private individuals, many species still face the prospect of extinction (Zimmerman 2003). Illegal wildlife trade is judged as one of the biggest factors driving the current decrease of species (Broad et al 2003), and over the last decades illegal trade is usually ranked among the most lucrative illicit economies in the world, together with illegal drugs and possibly human and arms trafficking (Wylar and Sheikh 2008; Prieksat 2009; Barber-Meyer 2010). Being home to around 10% of the world's species, many of which are found nowhere else in the world, Vietnam is recognized to be 10th in the world with respect to significance of endangered species (CITES 2008). In conjunction with the fundamental economic reforms begun by the Vietnamese government in 1986, this biodiversity hotspot has become a key area of the illegal wildlife trade (World Bank 2005a). There are a great number of transnational networks illegally trading rare and endangered wildlife in particular tiger, panther, bear, elephant, snake and pangolin across Vietnam (Ngo 2010). It is considered as a transit country for wildlife and wildlife products to third countries and the total estimated revenue and profits from the illegal trade in Vietnam are approximately USD 66.5 million and USD 21 million annually (Nguyen 2003). Dang and Dang (2010) estimate 3,000 tons of wildlife and wildlife products are shipped in and out of Vietnam every year, with only about 3% intercepted. Half of the trade is for domestic consumption, the other half for export mainly through the Chinese, Laotian and Cambodian borders (Dang and Dang 2010). Although tens of thousands of animals are confiscated (15,570 animals were confiscated in 2001 alone), others estimate this to represent about 5-10% of the total trade (Drury 2009). It is claimed that Vietnam has become famous over the past 15 years for the discovery of new species; it could also become famous for their rapid extinction, gravely threatening the biological heritage of Vietnam and Southeast Asia (Zeller 2006).

This literature-based article introduces a green criminological perspective to wildlife trafficking in the Vietnamese context. First, the green criminological perspective will be outlined describing its contents, particularly its expanded victim framework and its challenge to the priority of conventional crimes both by the criminal justice system and by the criminological community. Second, an overview of wildlife trafficking in Vietnam derived from official reports from Vietnamese authorities will be given in order to establish understanding regarding the nature and extent of the illegal wildlife trade in this specific and unique context. Finally, using the green criminological perspective recommendations regarding the approach to and prevention of wildlife trafficking will be made that are particular to Vietnam.

Green Criminology

Over the last two decades, the criminological agenda has been witnessing the rapid development of green or environmental criminology, in which a number of in depth studies have examined examples of environmental crime, including the illegal wildlife trade (for instance see Schneider 2009; Wyatt 2009). This research partly illustrates the nature and characteristics of the markets that deal in wildlife; elucidates why illegal wildlife trade flourishes; what detrimental impacts it causes; and critically measures the international communities' efforts to curb this green crime. Overall, however, there is still need for more research on the illegal trade in endangered wildlife in order to fully understand its nature and extent and to aid in curbing it. Green criminology provides a framework

for how research into the illegal wildlife trade and other crimes against nature can be approached. This section will outline these perspectives.

The term 'green criminology' was first used in the criminological agenda by Lynch (1990) in the early 1990s. Then a number of well-known criminologists within English-speaking countries such as Clifford, Edwards, Groombridge, Lane, and South in the UK; Stretesky, Lynch, Ross, Koser Wilson, Edwards, Fields, Hays, and Seis in the US; and White in Australia made significant efforts to develop it to be an independently unique branch of the criminological field. In general though not exclusively, this development has taken place mostly in the West. Over the last two decades, this new green criminology's overriding findings have made admirable contributions to identifying and pre-empting intentional and negative changes to the environment, in particular environmental crimes (Eman et al 2009). Green criminologists assert that this relatively new branch of criminology differs from the previous criminological works as it has a novel divergence, rooted in a distinct structure of causality (Pečar cited in Eman et al 2009: 580). Carrabine et al (2004: 28) identify four core missions of green criminology: '1. Paying attention to the existence of all types of green crime and formulating their essential typologies and distinctions; 2. Drafting different directions in this domain and measuring the complexities and political influences; 3. Linking green crimes with social inequalities; 4. Assessing the position of the green social movement in gaining social changes'.

Despite lacking sufficient terminology and a commonly accepted internationally acknowledged definition of green criminology, different green criminologists propose distinctions within this field – it is about crime 'impacting negatively on natural resources' (Herbig and Joubert 2009: 55); or about 'environmental harms and criminal behaviors which infringe upon environmental law and regulations' (Heckenberg 2009:14); or about those 'harms against humanity, against the environment (space included) and against non-human animals committed both by powerful institutions and ordinary individuals' (Beirne and South: 2007:xiii). Additionally, there are more approaches with different criminological semantics related to environmental criminology including green perspective (South 1998), conservation criminology (Herbig and Joubert 2009) and eco-global criminology (White 2009). South (1998) suggests that in the 21st century, the environment needs to be considered much more profoundly in criminological discussion. Human beings' survival cannot be separated from animals and plants, but rather as part of the natural cycle; hence all living beings have to be equally treated (South 1998). Herbig and Joubert (2009) reject the use of the term 'environmental criminology' because 'environmental' here implies the surrounding social, cultural, economic, legal, and physical environment; but rather recommend the use of 'conservation criminology' which researches natural resources crimes. White (2009) prefers to use eco-global criminology which is built up by ecological thought and by a critical analysis global in scale and perspective. This approach takes account of contraventions against the environment, non-human species and humans which are occurring across national borders. Eco-global criminology also calls for an international integration among green scholars worldwide. Whilst environmental degradation is a global phenomena and conservation is certainly a key feature in stopping this degradation, this article will use the now more widely accepted term 'green criminology'. Green crimes are both local and global and they are about more than conserving natural resources for human use. Green criminology seems to best encompass the notion advocated here that nature and non-human animals have intrinsic value outside of the worth attached to them by people as will be detailed below.

White (2009) suggests three comprehensive approaches to conceptualizing environmental harm including conventional criminology, ecological perspectives and green criminology. According

to White (2009) conventional criminology is based on environmental laws, regulations and international conventions and its core concern is of legality and illegality. What has been defined as illegal has typically been derived from human-centered interests (White 2007) and it could be argued that this perspective has contributed to the persistent degradation of the environment. The key illicit activities are illegal taking of flora and fauna, pollution offences and transportation of banned substances (White 2009). The second approach (ecological perspective) prioritizes ecological welfare and holistic knowledge of the interrelationship between species and environments (White 2009); its critical argument is, therefore, one of ecological sustainability. Sustainability too though can be viewed as human-centered as it frames environmental health on its further viability for human use. Problems of climate change, waste and pollution, and biodiversity are key concerns raised in this approach (White 2009). Additionally, notions of human, ecological and animal rights in an eco-justice framework and various infringements upon such rights are key issues exclusively investigated by the third approach - green criminology - which is interested in rights and justice matters such as environmental rights, environmental justice, ecological citizenship, ecological justice, animal rights and species justice (Heckenberg 2009; White 2009). As mentioned, these concepts and frameworks have mostly been advocated and developed in the West. Areas such as Southeast Asia and Vietnam with large scale and pervasive environmental destruction could benefit from exposure to these ideas that depart from human-centered considerations as it may aid these countries in formulating new, innovative strategies to combat such degradation of nature. In that vein, this article applies green criminological concepts to the Vietnamese context with regards to wildlife trafficking, which incorporates human, non-human animal and environmental rights.

Irrespective of somewhat different definitions, all green criminologists challenge traditional approaches to environmental crime that only take certain actions into account by initiating a widened conception of environmental crime and deviant behaviors. Herbig and Joubert (2009) state that traditional criminology often concentrates on more conventional, scandalous or higher profile-type crimes, particularly those involving a readily identifiable victim. South (1998: 225) argues that criminology should 'reappraise traditional notions about what should be seen as serious crime, offences and injurious behaviors' and 'should be tackling old crime and new violations which arise in relation to land animal and aquatic life'. Additionally, green criminology begins identifying the limited natural resources of the earth and how this produces new detrimental impacts on human beings, and examining the role played by whole societies, including individuals, corporations and governments, in causing environmental disasters (Lynch, 1990). Even though green criminological studies have increased, it is still necessary for more research to be undertaken underpinned by green or environmental criminological perspectives in order to further the development of theories and prevention strategies. Furthermore, it could be argued that it is essential that this further study occurs beyond the West in order to gain a wider global perspective that would aid in the development of a more nuanced account of the interaction (Halsey 2004) and this is another justification for the research undertaken here.

Wildlife Trafficking in Vietnam

Pires and Moreto (2011) use the term 'tragedy of the commons' to refer to illegal wildlife trade where species have been severely overexploited to make short-term profits, thus endangering and eliminating natural resources for future generations. In fact, there is still no official definition of illegal wildlife trade agreed upon worldwide, but its dimension and characteristics have been discussed in a range of individual studies. Wyler and Sheikh (2008: 1) define that 'illegal wildlife

trade involves the illicit procurement, transport, and distribution - internationally and domestically - of animals, and animal parts and derivatives thereof, in contravention of laws, foreign and domestic, and treaties'. Providing more details of specified activities in illegal wildlife trade, Wyatt (2009: 145) defines that 'wildlife trafficking or the illegal wildlife trade is the specific name of the green crime that involves the illegal trade, smuggling, poaching, capture or collection of endangered species, protected wildlife (including animals or plants that are subject to harvest quotas and regulated by permits), derivatives or products thereof'. Hence, illegal wildlife trade's definitions covers a variety of wildlife such as mammals, fishes, reptiles, amphibians, birds and even insects, many illegal activities, and a wide range in volume from single items of local goods to large quantity commercial cargos transported across the world (Zimmerman 2003; Blevins and Edwards 2009). The facts have shown that the illegally gained wildlife is traded for food, medicinal treatments, entertainment and household decorations (Warchol 2004).

Broad et al (2003: 7) suspect that 'any effort to describe international wildlife trade must unfortunately begin with the recognition that this cannot be done with any accuracy' as illegal wildlife trade remains undefined and difficult to precisely measure. In fact, there have been multiple studies designed partly to gauge the profits of the illegal activity. Brack (2009: 487) and Schneider (2009) indicate that total global trade in wildlife is estimated to create an annual turnover well in excess of USD 20 billion, including 40,000 primates, several million animal pelts, several million birds, 10 million reptile skins, 500 million tropical fish, and 9-10 million orchids. It is suspected that a quarter of this total trade may be illegal (Brack 2009: 487). The total value of products reported in international wildlife trade has also substantially escalated over the last decade (TRAFFIC 2008).

The development of legal international wildlife trade and the establishment of large markets in Asia, Europe and America in the late 1980s facilitated the flourishing of international wildlife trade in Vietnam, in which legal wildlife trade comprised the most significant part (Dang and Dang 2010: 13). In the mean time, the enlargement of legal wildlife trade brought great opportunities to numerous local communities in Vietnam to increase their incomes by selling natural products (Nguyen 2004). From 2003 to 2005, there was a total of 3,083 CITES permits granted for exporting, importing and re-exporting wildlife, with exports comprising mostly parts of animals (CITES 2008: 11; Nguyen 2008). In conjunction with customary use and legal trade, illegal wildlife trade arguably has also been increasing, and it is suspected to be one of the most severe contributors to driving down the number of rare and endangered species in Vietnam such as bears, cats, pangolins, reptiles, amphibians and orchids (Nguyen 2004). CITES (2008: 13) asserts that in many provinces and regions of Vietnam, 'illegal wildlife trade is recorded dramatically high'. However, it is understandable that like offenders in other illegal activities, illegal wildlife traders always find cunning ways to evade the authority's detection. This leads to the fact that it would not be possible to gauge illegal wildlife trade in precise number of traffickers or an accurate amount of illicitly traded wildlife and profits. Indeed, there are different opinions as to the accuracy of the data collected on wildlife trafficking in Vietnam. The World Bank (2005a) states that the illegal wildlife trade is well recorded and documented throughout Vietnam, while the Environmental Justice Foundation (EJF 2011) is suspicious that the investigated cases as well as the estimated profits represent only about 5-10% of the total trade in reality. Furthermore, Nguyen (2008: 10) believes that only 3.1% of illegal wildlife trade is recorded or discovered.

However, regarding the amount of illegal wildlife trade, CITES (2008: 13), Nguyen (2008: 5) and Dang and Dang (2010: 17) provide rather similar figures. From 1996 to March 2007, Vietnamese authorities identified and prosecuted 14,758 cases of illegal wildlife hunting and trading and

confiscated about 635 tons of wildlife with a total of 181,670 individual animals. According to the General Department of Forestry (GDF 2010: 29), in the last decade, authorities prosecuted approximately 1,300 cases of illegal wildlife trade every year, consisting of 20,000 individual specimens and 60 tons of confiscated wildlife. However, the estimate of Nguyen (2008: 5) is that there are about 3,000 to 4,000 tons of live wildlife and about 1,000,000 individual animals which are illegally traded in and out of Vietnam every year. A study by Tran (2010: 92) reveals that in 2009 alone, all the Environmental Crime Prevention and Combat Police forces in Vietnam, which constitutes a national force and a force in each of the 64 provinces (Environmental Police 2010), detected 4,545 environmental illegal cases with 1,300 organizations and 3,128 individual offenders, jumping by 400% compared to the number of cases in 2008. Among these, the number of cases for illegal wildlife trade was 226, accounting for 4.98%. In Vietnam there are currently over 200 wildlife species including approximately 80 endangered wildlife species which have been traded in both domestic and international markets (Dang and Dang 2010). The proportions of types of species traded is 20% wild animal, 45% snakes, 30% different turtles, 3% birds and 2% other species. The Asian Development Bank (2005b: 15) shows that the majority of illegal wildlife trade in Vietnam is for international markets with an overwhelming majority destined for the People's Republic of China.

A note about these police forces, at the national level, there are six operational divisions and the Environmental Expertise Center with duties including ensuring the observance of environmental laws of organizations and individuals in the Vietnamese territory (Environmental Police, 2010). This entails directing, guiding, checking, and conducting investigations of environmental crime and violations as well as handling investigations into administrative violations in accordance with other provisions of the environmental protection law (Environmental Police, 2010). They also coordinate evaluations of the impacts of business investment projects on the environment and test environmental standards (Environmental Police, 2010). The Divisions of Environmental Protection Police in the 64 provinces have similar tasks to these, but are in charge of their provinces only. There is no official number of employees and officers working in these forces (Environmental Police, 2010). Environmental issues have increased in significance in Vietnam, attracting increased attention of politicians, which has led to more investments in this field. The Vietnamese government has provided more financial support and introduced legalization that has established and strengthened environmental institutions that aim to prevent, detect and combat environmental crimes, including the illegal wildlife trade (CITES 2008). This could be one of the reasons for the increase in detected cases in wildlife trafficking. However, since green crimes in Vietnam are notoriously under-researched and there has been no comprehensive study thoroughly exploring and gauging factors that contribute to this increase, it is difficult to know for certain.

Nguyen (2008: 5) and Dang and Dang (2010: 17) assert that illegal wildlife trade in Vietnam is worth approximately USD 21 million per year making it an enormously lucrative business. Within Pu Mat National Park alone, the value of illegal wildlife trade is around USD 1.25 million annually with 75 percent of households living in the buffer zone of the park getting involved in the trade (World Bank 2005b). Nguyen (2008: 6) states that the profit from the illegal wildlife trade is four times higher than the total fines collected, which results in the fact that if illegal wildlife traders are fined, they can still reap considerable profits. What is more, observation by Nguyen (2008: 6) unveiled other remarkable figures that in 2002 alone the total revenues of the legal wildlife export and the illegal wildlife trade were USD 5.5 and 67 million respectively; which means the latter is 12 times

higher than the former. The data of Nguyen (2004) also indicates the North-East, Central North and Southern provinces are important wildlife trafficking hotspots.

In term of tactics used in the illegal wildlife trade, traffickers employ a range of sophisticated tricks to acquire and smuggle their targets (PDEP 2010). Animals are usually hidden under agricultural products such as rice, vegetables and livestock by local residents and pass the guard post by following trails in the forest or are trafficked by boat or motorbike (FPD 2003). A report by the General Department of Forest (GDF 2010: 29) discloses different techniques employed by traders, including using various kinds of permits and licenses, fake licenses, transporting wildlife products in one bus in the early morning, lunch time, and late evening; changing cars often; sometimes the total amount of goods is divided into smaller amounts and poor local people are hired to carry these goods across the borders. This makes it difficult for authorities to identify the real owners of the commercial consignment. Wildlife traffickers often use out-of-date vehicles, so that if detected, they abandon these vehicles and goods to escape arrest by the police (Quang Tri Province Police 2010: 113). Other tricks include: grinding bones of tiger, monkey, bear and other animals into powder form; using containers with two bottoms or ceilings; using special cars like ambulances, gas, ice, fish-transporting cars and the prisoner transport 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 (Tran 2010; Vu 2010). Together with smuggling by roads, wildlife traffickers also use air routes for transporting snakes and rhino horn; waterways for transporting ivory and pangolin; and occasionally the post system (GDF 2010).

Given the routes of the illegal wildlife trade, recent surveys and assessments show that wildlife specimens are mostly harvested by local people and sold to small retailers within their commune or district (GDF 2010). The retailers then transport the goods to provincial traders and these traders sell them to other local consumer markets or transfer them to international traders for export (GDF 2010) (see Table 6). In fact, the original collectors (local people) normally receive very little money while the retailers, especially the international traders or perhaps the wildlife meat restaurant, take most of the profit (Nguyen, 2004).

Illegal Wildlife Trade in Vietnam

Unfortunately, not many studies are exclusively designed to examine in depth specific activities committed by wildlife traffickers in Vietnam. Rather, data expressing such detailed activities is incidentally or discursively mentioned in a variety of studies and reports. To summarise this information, there are four key types of wildlife trade in Vietnam, including live wildlife, wildlife meat, dried wildlife products and taxidermy. Data provided by Nguyen (2003) shows that in Vietnam there are approximately 90 traders of live wildlife stretching through all three regions (North, Centre and South). From 1997 to 2002, the estimated value of the confiscated wildlife is USD 1.4 million per year; whereas the total estimated annual revenue and profit of live wildlife markets were USD 2.2 million and USD 328,460 respectively (Nguyen 2003). The most popular live wildlife trafficked in Vietnamese markets are birds, snakes, turtles, gecko, pangolins, and lizards (Vu 2010). This might be supplying the international pet trade, or could be closely linked to the domestic and international demand for wildlife meat.

The study by Nguyen (2003) points out that in the 20 surveyed cities in Vietnam, there are around 316 wildlife meat restaurants providing 2,040 kg of wildlife meat daily with the daily total revenue and profit being USD 34,760 and USD 11,500, respectively. Also, within each surveyed city,

there are at least four wildlife meats or partial wildlife meat restaurants (Nguyen 2003). Irrespective of frequent attempts to close wildlife meat restaurants by local authorities, such eating places still exist in all provinces in Vietnam with the largest number found in Hanoi, Hochiminh City, Haiphong, and Nghean (FPD 2003). Research by the World Bank (2005a: 29) examining the illegal wildlife meat trade in the Tamdao National Park area estimated that restaurant owners around this hotspot can generate USD 1,000 to USD 1,500 profit annually from selling accidentally caught marine turtles and seabirds. However, the price for purchasing fresh wildlife meat is much lower than the costs of selling special wildlife meat dishes. Drury (2009) found that the sources of wildlife meat are mostly from Taynguyen Plateau, Laos, Central and Mekong River Delta. The 13 most common species reserved for wildlife restaurants' menu are snakes, palm civets, monitor lizards, porcupines, leopards, pangolins, monkeys, forest pigs, hard-shell turtles, soft-shell turtles, civets, boas, and birds (Vu 2010). There are several species not listed on the menu, their wildlife meat is still available because such wildlife is stored in another place nearby and delivered by motorcycle after the customer's request (Tran 2010).

The third type of trade is that of dried wildlife products. Even though studies on illegal wildlife trade in Vietnam do not provide a formal definition of 'dried wildlife products', it can be understood that some wildlife or its products are dry or can be dried which are sought as souvenirs, decoration, food or medicine. Observation by Nguyen (2003) shows that there are about 24 kinds of dried products with the most popular being bear bile, tiger teeth, bear teeth, artistic ivory, artistic turtle shell, and sea turtles. The total estimated annual revenue and profit of illegal dried wildlife products trade are roughly USD 2.2 million and USD 740,000, respectively, in which bear bile trade accounts for 85% of the total (Nguyen 2003).

Similar to the data availability of the illegal trade in dried wildlife products, there are a very small number of studies looking into the illegal wildlife taxidermy trade; and again, no official definition of 'illegal taxidermy trade' is described. However it can be perceived that illegal taxidermy trade consists of trading art products which are prepared, stuffed, and mounted from the skins of animals to make them seem lifelike. Historically, wildlife skins and wildlife taxidermy were popularly used by Vietnamese kings as symbols of their nobility and influence (Pham and Rambo 2003). In recent decades, the selling of skins and wildlife taxidermy has expanded in big cities such as Haiphong and Hanoi in the north and Hochiminh City in the south where the prices and sources of the illegal stuffed products are almost the same (PDEP 2010). The estimated monthly total profit of illegal wildlife taxidermy trade in Hanoi, Haiphong and Hochiminh City are USD 320, USD 238, and USD 287, respectively (Nguyen 2003). Unlike wildlife meat and dried wildlife trade, the vast majority of customers buying wildlife taxidermy are foreigners and affluent people who buy them as souvenirs or decoration for their homes (Tran 2010). In contrast to the hectic movements of the three previous types of illegal wildlife trade, the wildlife taxidermy business activities take place in a secretive manner around the big cities. Indeed, in practice there is no market and the wildlife used in taxidermy is often made from wildlife that died during transportation or was hunted. In other words, the wildlife taxidermy trading movements are not as common as the live wildlife, wildlife meat and dried wildlife trades (Nguyen 2003). Now that the nature and extent of wildlife trafficking in Vietnam has been explored, a green criminological framework will be used to explore the correlates to this green crime.

Greening Wildlife Trafficking in Vietnam

It is proposed here that there are four correlates that contribute to the flourishing of wildlife trafficking in Vietnam – Vietnam's diverse environment, the cultural tradition of consumption of wildlife as food and medicine, the economic pressures on different classes in society, and the embryonic and weak state of environmental legislation and enforcement. The exploration of each of these will be undertaken from the green criminological perspective adopted here in order to develop potential new tactics of prevention. Vietnam is located within the 'Indo Burma' hotspot, one of 25 highly biologically diverse regions in the world with a high density of endemic species (MNRE 2006). The most current data provides the figure that there are about 11,458 animal, 21,017 plant, 3,000 micro-organism, 1,030 moss and 826 fungi species occurring in Vietnam (World Bank 2005a). In the last 15 years, Vietnam has discovered a wide range of new plant, amphibian, reptile and even mammal species (Drury 2009: 39). Many of them belong to new genera and species, particularly those of *Mammalia* and *Orchidaceae* species. So in the context of wildlife trafficking, Vietnam has a rich collection and high abundance of species that can supply the range of demands in the variety of domestic and international markets. From a green criminological perspective that advocates for ecological and species justice, it is paramount to preserve this diversity not only for the health and livelihoods of people, but also for the sake of the environment and the species living there as they have intrinsic value and the right to survive. Admittedly, species rights are certainly a morally and ethically complex topic that warrants more discussion. The intricacies of the use of wildlife in sustainable or exploitative ways are beyond the scope of this paper though, which adopts as stated the species justice perspective of green criminology. While Vietnam is certainly aware of the uniqueness of their diversity, framing it in an ecological or species justice perspective may add a level of importance to the debate. This would be because rather than merely conserving the environment for continued economic use the efforts to save nature become about saving the lives of species entitled to survival.

Like people in other countries in Asia, Vietnamese hold longstanding cultures and traditions, particularly pertaining to the consumption of natural products as food and traditional medicine; a significant quantity of wildlife, therefore, is being utilized for traditional medicine as well as food throughout the country (Dang and Dang, 2010). A study by Tran (2010) estimates that Vietnamese communities use about 2,300 species for food, medicine, animal feed and textile materials. Research by Vietnam National University (VNU 2011) suggests that wildlife consumption may well be one of the key reasons that wildlife is pushed to the brink of extinction. Nguyen (2003: 21) cites a traditional saying in Vietnam '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 surveyed provinces within Nguyen's study (2003), as stated above there are at least four entire or partial wildlife meat restaurants in each town or city with the highest number of wildlife meat customers found in Hanoi, Hochiminh City, Haiphong, and Nghean.

Additionally, like Chinese people, Vietnamese hold the longstanding attitude on the great advantages of medicine made from wildlife (Nguyen 1985). Approximately 4,000 different types of medicines ranging from traditional herbal remedies to contemporary cures introduced from the West are produced in Vietnam (Vantomme et al 2002). Even though a survey undertaken by TRAFFIC (2008) suggests that most of traditional Chinese medicine doctors actually oppose the use of wildlife and no longer prescribe it specifically because of the rarity of most species, a study by Sumrall (2009: 12) reveals that a large number of Vietnamese still prefer these ancient remedies. At present three quarters of Vietnamese are estimated to primarily adopt traditional remedies for general health

problems (Nguyen and Nguyen 2008); meanwhile according to information in The National Action Plan (2004), 3,500 species of fauna and flora and about 20,000 tons of other flora have been used as medicine and the vast majority of traditional remedies (over 95%) are plant-based. Nguyen and Nguyen (2008) believe that wildlife is hunted primarily for food consumption and secondarily for traditional treatments. There are a great number of traditional medicine institutions in Vietnam including 48 hospitals, over 240 traditional medicine departments in central and provincial hospitals, and over 9000 health centers reportedly licensed to practice traditional medicine, not to mention numerous unregistered herbalists and healers providing traditional medicine treatments to patients (Nguyen and Nguyen 2008).

Traditional medicine in Vietnam is broadly differentiated into two types - the Vietnamese traditional medicine (Thuốc Nam) and the Chinese traditional medicine (Thuốc Bắc) (Tran 2005). The Vietnamese also believe that Western medicines (Thuốc Tây) are 'hot' and 'toxic', rendering quick results but temporary impacts, no durable outcomes and might lead to unexpected side effects such as addiction, not to mention that these medicines appear to be fake and are expensive (Drury 2009). Traditional treatments, in contrast, are considered as cool, natural, attuned to the body, nutritious, affordable and more widely trusted, having long-term health impacts (Craig 2002; Tran 2005). Tiger bone jelly used to cope with paralysis and rheumatism (Nguyen and Nguyen 2008) and bear bile to treat a raft of ailments such as indigestion, gastric and muscular pains, poisoning, jaundice and strains (Nguyen 2006) are two of the most expensive medicines and from some of the rarest animals. Nguyen (2003) postulates that regardless of the wide availability of cheaper, less environmentally destructive therapies, the sheer power and rarity of tigers puts the products derived from them in high demand by the wealthiest men. For bear bile, consumers were unaware of alternatives, though they knew of declining bear populations (ENV 2005: 4). Challenging the use of wildlife as medicines may be key in slowing wildlife trafficking. When approached from a green criminological perspective, there are similar arguments to stopping such practices as there was in the above to conserve the environment. The environment and other species have intrinsic value beyond that which is assigned to them by humans. Therefore killing of these species should not be allowed to continue when they are facing extinction. The human benefit from the medicine should not outweigh that species right to life and in fact becomes an additional reason to conserve them if there is truly medicinal value. If this framework is adopted when drafting legislation or when developing anti-trafficking campaigns, more protection will likely be given to the species that are in demand within this portion of the illegal wildlife trade. Another element to the use of wildlife medicines is that in some instances, particularly that of collecting bear bile, the process is quite cruel. The bears are alive and awake while they are 'milked' for bile through metal stints (Foley et al 2011). So in addition to threatening species right to survival, non-human animals are also subjected to abuse and suffering in the pursuit for human treatments. This aspect too is challenged within a green criminological perspective when evaluating harm and people's relationship to the environment.

Within this biologically diverse nation with a culture of wildlife consumption there are 84 million people, one of the highest world populations (GDS 2009). At the same time, Vietnam, a country once torn by war and economic stagnation, now has the third fastest growing developing economy in the world (World Bank 2011). This is in conjunction with the reduction of the poverty rate by more than half, from 58.1 % in 1993 to 14.5% in 2008 (VOV News 2006). So while there is a quite large and growing middle class there is still wide spread poverty. The connection to the illegal wildlife trade is that as Lin (2005) and Nijman (2010) have found consumption of wildlife and

its products is common among Asia's growing middle class. Sumrall (2009: 11) notices that with the rapid climb in disposable incomes, 'urban Vietnamese are under tremendous social pressure to display their wealth' and one way to do so is by dining on exotic and rare foods at luxurious restaurants with large groups of friends or colleagues. Men particularly enjoy the parts of wildlife such as brains, heart, testicles and penises which are supposedly good for the correlating parts of the body. Drury (2009) shows in his study that interviewees regarded the wildlife products as rare, valuable or precious, special or unusual, exotic, expensive or fashionable. Discussing the wildlife meat, an interviewee in the study describes that 'it is exotic, but it doesn't necessarily taste better than other meat. It's exotic and expensive, so people would like to invite each other to try as a luxury of life. Actually it's more about what they think rather than the real quality' (Drury 2009: 137).

Adding to the stress on wild populations, the national report of the Ministry of Planning and Investment (MPI 2010: 16) acknowledges that irrespective of the significant success of poverty reduction programs, the poverty rate still remains high particularly within rural places and isolated regions like mountainous and coastal areas where up to 31% of the population are still struggling with food poverty. Food shortages have also been a common phenomenon among the ethnic groups; and in order to cope with the shortage, a considerable proportion of native residents have to engage in natural resource exploitation (MPI 2010: 16). The Asian Development Bank's report (ADB 2005a) assesses that like several other countries in the Association of South East Asian Nations (ASEAN) such as Cambodia, Indonesia and Laos; over a quarter of the population in Vietnam live below the national poverty standard and their wellbeing heavily depends on environmental goods. They too then exploit the wildlife. Within a green criminological framework measures need to be taken in such situations where people exploit wildlife because they have no alternatives. Rather than allowing such destruction to continue provisions need to be adopted within Vietnam to provide people with alternative livelihoods and opportunities that will keep them from relying on wildlife and contributing to the extinction of species. In other regions this has resulted in education programs around sustainable agriculture, handicrafts, non-timber forest products, bee-keeping, flower arranging, and eco-tourism (Wyatt 2009). In Vietnam's drive to continue with economic development from a green standpoint this needs to be tempered with ecological and species concerns, so that the environment is not sacrificed for short-term profit. Green criminology then can provide some guiding principles to Vietnam and other nations in these endeavors.

Protection of wildlife and the environment is impaired though as the legislation and enforcement pertaining to this area are still young and weak. In recent decades Vietnam has been struggling to streamline its legislation and the legal system, the environmental laws included - this has resulted in a varied array of weaknesses (Bryant and Akers 1999). Reports of the Asian Development Bank (ADB 2005a), the General Department of Environment (GDE 2005) and the Ministry of Planning and Investment (MPI 2010) highlight that prioritizing economic development while lacking effective environmental protection strategies has left Vietnam with a vast range of environmental concerns. Of most concern in this article, is the dramatic loss of biodiversity, which in part stems from the illegal wildlife trade (Pham 2011). The weak environmental legislation ties directly to the economic development discussed above. Vietnam has a great opportunity to draft robust green legislation that will ensure that the environment is there for future generations not only for human use and enjoyment, but also because of its intrinsic value. It should be noted that legislation has improved, though as stated more could be done. Additionally, implementation of those environmental statutes that have been drafted would aid in protection of the valuable and unique Vietnamese environment.

Conclusion

The simultaneous and coincident convergence of these contributors in Vietnam creates great opportunities for illegal wildlife trade to prosper. Human-centered traditional approaches to these correlates to wildlife trafficking have not and will not tackle the loss in biodiversity and destruction of the environment. Tackling these issues requires new ways of thinking, which can come from taking on a green criminological perspective when creating strategies for combating the illegal wildlife trade and other green crimes. For wildlife trafficking in Vietnam, this means challenging notions that the environment and other species are only valuable because of their instrumental use for humans. This would aid in preservation of this biodiversity hotspot not only because it has worth to people, but because the ecosystem and its inhabitants have a right to survival. Green criminologists argue that the harm and violence perpetrated against non-human animals and the environment within the illegal wildlife trade while legal needs to be made visible and the subject of research. This would challenge historical practices regarding traditional medicines, but is necessary because this is a large contributing factor to the depletion of species. From an ecological and species justice stance, the benefit to people should not override the existence of the species that are supplying these medicines. Furthermore, adopting this approach would alter the way in which Vietnam plans its economic development and in turn the way that legislation is drafted resulting in targets for a robust green economy and eco-friendly regulations that protect the environment. With a promising economy and the right political will, Vietnam is well poised to take on this green ethic and lead by example how to ensure the conservation of the environment and the diverse species that live there.

References

- Asian Development Bank (2005a). Vietnam: Country Environmental Analysis, Asian Development Bank, Hanoi. <http://www.adb.org/Documents/Assessments/Country-Environmental/VIE/Country-Environmental-Analysis.pdf>. Accessed 12 June 2011
- (2005b). *GMS (Greater Mekong Subregion) Biodiversity conservation corridors initiative, strategy framework and technical assessment*". Asian Development Bank, Hanoi. <http://www.adb.org/Documents/Reports/GMS-BCI/gms-bcci-execsum.pdf>. Accessed 08 June 2011.
- Barber-Meyer, S, M. (2010). 'Dealing with the clandestine nature of wildlife-trade market ', *Conservation Biology*, 24(4), pp.918–923.
- Beirne, P & South, N. (2007). Introduction: approaching green criminology. In P. Beirne & N. South (Eds.), *Issues in green criminology Confronting harms against environments, humanity and other animals* (pp. xiii-xxii). Cullompton: Willan.
- Blevins, K., R. & Edwards, T, D. (2009). 'Wildlife crime'. In J. M. Miller (Ed.) *21st Century criminology: a reference handbook*, (pp. 557-563). California: SAGE Publications.
- Brack, D. (2009). 'Combating international environmental crime'. In R. White, R. (Ed.), *Environmental Crime, a Reader*, (pp. 485-492). Cullompton: Willan Publishing.
- Broad, S., Mulliken, T. & Roe, D. (2003). The Nature and Extent of Legal and Illegal Trade in Wildlife. In S. Oldfield (Ed.), (pp. 3-22), *The Trade in Wildlife: Regulation for Conservation*. London, UK: Earthscan.

- Brown M, G (2010). Tigers May Become Extinct in The Wild by 2022, *Sciencera*. <http://sciencera.com/biology/tigers-may-become-extinct-in-the-wild-by-2022/>. Accessed 25 July 2011.
- Carrabine, E., Iganski, P., Lee, M., Plummer, K., & South, N. (2004). *Criminology: a Sociological Introduction*. London: Routledge.
- Craig, D. (2002). *Familiar medicine: Everyday health knowledge and practice in today's Vietnam*. University of Hawaii: Honolulu. <http://books.google.com/books?hl=en&lr=&id=s8f6QRZXJ4oC&oi=fnd&pg=PR7&dq=Familiar+medicine:+Everyday+knowledge+and+practice+in+today%E2%80%99s+Vietnam&ots=64pAsMFg-C&sig=QhpQva7SYIN0c7oDdjHLpVZP4xE#v=onepage&q&f=false>. Accessed 23 July 2011.
- Convention on the International Trade in Endangered Species (CITES) (2008). *Report on the review of Vietnam's wildlife trade policy*, CITES Vietnam, Hanoi. http://www.cites.org/common/prog/policy/Vietnam_wildlife_trade_policy_review.pdf. Accessed 20 July 2011.
- Dang, H, H. & Dang, H, P. (2010). 'Profits, management and the control over illegal wildlife trade in Vietnam', *National Conference of Prevention and Combat the Offence Against Wildlife, Biodiversity and Natural Preservation, Environmental Protection Department: Hanoi, Vietnam*, pp13-20, in Vietnamese.
- Drury, R, C. (2009). 'Identifying and understanding consumers of wild animal products in Hanoi, Vietnam: Implication for conservation management'. The Degree of Doctor of Philosophy: University College London. <http://eprints.ucl.ac.uk/16275/1/16275.pdf>. Accessed 06 July 2011.
- Eman, K; Meško, G & Fields, C, B., (2009). Crimes against the Environment: Green Criminology and Research Challenges in Slovenia, *Journal of Criminal Justice and Security*. Year 11: no. 4 pp. 574-592.
- Environment Justice Foundation (EJF) (2011). *Why is wildlife traded*, media release, Environment Justice Foundation. <http://www.ejfoundation.org/page131.html>. Accessed 23 August 2011.
- Environmental Police (2010). "Ministry of Public Security issued Decision No. 449 regulating the functions, duties, powers and organizational structure of the Department of Environmental Crime Prevention and Combat Police" <http://www.canhsatmoitruong.gov.vn/default.aspx?tabid=441&ID=3029&CateID=479>. Accessed 23 September 2012.
- Foley, K.E., Stengel, C.J. & Shepherd, C.R. (2011). *Pills, Powders, Vials and Flakes: the bear bile trade in Asia*. TRAFFIC Southeast Asia, Petaling Jaya, Selangor, Malaysia.
- Forest Protection Department (FPD) (2003). *Evaluation of the wildlife trade in Na Hang District*, Forest Protection Department: Hanoi, Vietnam. <http://www.insua-cao.org/PARC/docs/bn13-wildlife-trade-nh.pdf>. Accessed 22 July 2011.
- General Department of Forestry (GDF) (2010). 'Legal provisions on the management and license for wildlife trade, transport, export and import- current situation and measures to improve the management of the illegal wildlife trade', *National Conference of Prevention and Combat the Offence Against Wildlife, Biodiversity and Natural Preservation, Environmental Protection Department: Hanoi, Vietnam*, pp25-30, in Vietnamese.

General Department of Statistics of Vietnam (GDS) (2009) *National Statistics of Vietnam*, General Department of Statistics. http://www.gso.gov.vn/default_en.aspx?tabid=491. Accessed 23 June 2011, in Vietnamese.

Halsey, M. (2004). Against 'Green' Criminology. *The British Journal Criminology*, 44 (6), 833-853.

Heckenberg, D. (2009). *Studying environmental crime: key works, acronyms and sources*. In R. White (Ed.), *Environmental crime, a reader* (pp. 9-24). Cullompton: Willan Publishing.

Herbig, F, J, W & Joubert, S, J. (2009). Criminological semantics: conservation criminology – vision or vagar. In R. White (Ed.), *Environmental crime, a reader* (pp. 50-62). Cullompton: Willan Publishing.

Lin, J., (2005). 'Tackling Southeast Asia's illegal wildlife trade', *Singapore Year Book of International Law and Contributors*, pp.191–208. <http://law.nus.edu.sg/sybil/downloads/articles/SYBIL-2005/SYBIL-2005-191.pdf>. Accessed 12 June 2011.

Lynch, M. (1990). The Greening of Criminology: a Perspective for the 1990's. *The Critical Criminologist*, 2(3), 1-4 and 11-12.

Ministry of Planning and Investigation (MPI) (2008). 'Vietnam continues to achieve the millennium development goals', Ministry of Planning and Investigation: Hanoi, Vietnam. http://www.undp.org.vn/digitalAssets/19/19032_MDGR_2008_-_printed_-_E.pdf. Accessed 12 July 2011.

Ministry of Natural Resources and Environment (MNRE 2006). 'Vietnam's National Capacity Needs Self-Assessment for Global Environmental Management', Ministry of Natural Resources and Environment: Hanoi. <http://www.undp.org/mainstreaming/docs/nca/nca-reports/finalreportsandplan/nca-vietnam-fr-ap.pdf>. Accessed 23 June 2011.

Muncie, J. (2010). 'Labeling, social reaction and social constructionism'. In E. McLaughlin & T. Newburn (Eds.) *The SAGE Handbook of criminological Theory* (pp. 139-154). London: SAGE.

Ngo, Q, D. (2010). 'Combating environmental crime in the area of import and export', *Baomoi*. <http://www.baomoi.com/Dau-tranh-chong-toi-pham-ve-moi-truong-trong-linh-vuc-xuat-nhap-khau/58/3447985.epi>. Accessed 23 August 2011, in Vietnamese.

Nguyen, D, N, V & Nguyen T., (2008). 'An overview of the use of plants and animals in traditional medicine systems in Vietnam' *A TRAFFIC Southeast Asia Report*. http://www.trafficj.org/publication/08_medical_plants_Viet_Num.pdf. Accessed 11 July 2011.

Nguyen, M, D. (1985). 'Culture shock – A review of Vietnamese culture and its concepts of health and disease', *West J Med*. 142 (3): 409-412.

Nguyen M, H. (2004). 'Status of the illegal trade in some mammals in Vietnam', *Journal of Agriculture and Rural Development*, Vol. 8(44): 1148-1149.

Nguyen, V, S., (2003). 'Vietnam's illegal trade in wildlife: why it flourishes', NO2003-RR6, Economy and Environment Program for Southeast Asia, Hanoi, Vietnam. <http://econpapers.repec.org/scripts/redir.pf?u=http%3A%2F%2Fwww.idrc.ca%2Fuploads%2Fuser-S%2F10705050241SongRRlayout.doc;h=repec:eep:report:rr2003111>. Accessed 23 June 2011.

Nguyen, V, S. (2008). 'Wildlife Trading in Vietnam: Situation, causes, and solutions', *Journal of Science and Development*, pp.99-111.

- Nguyen, X, T. (2006). 'A glimpse of the traditional medicines of animal origin', *Global Publications*, Hanoi, Vietnam.
- Nijman, V., (2010). 'An overview of international wildlife trade from Southeast Asia'. *Biodiversity Conservation*, 19, pp.1101–1114.
- Pham, T.T and Rambo, T (2003). 'Environmental consciousness in Vietnam', *Southeast Asian Studies* 41: 76-100.
- Pires, S, F. and Moreto, W, D. (2011). 'Preventing Wildlife Crimes: Solutions That Can Overcome the 'Tragedy of the Commons'', *European Journal on Criminal Policy and Research*, Volume 17, Number 2, 101-123.
- Prieksat, J. (2009). 'International Trade and Trafficking in Wildlife: The Value of Biodiversity CITES, and Going Further', *International Environmental Law*.
<http://www.elizabethburleson.com/InternationalTrade&TraffickinginWildlife&CITESJoePrieksat.pdf>. Accessed 19 June 2011.
- Police Department of Environmental Protection (PDEP) (2010). 'Prevention and Combat against infringements of wildlife protection, natural and biodiversity preservation', *National Conference of Prevention and Combat the Offence Against Wildlife, Biodiversity and Natural Preservation, Environmental Protection Department: Hanoi, Vietnam*, pp7-12, in Vietnamese.
- Quang Tri Province Police (2010). 'Co-ordinate relationships between agencies: environmental protection police, customs, forest rangers and border guard in the prevention, detection and combating of illegal wildlife trafficking activities', *National Conference of Prevention and Combat the Offence Against Wildlife, Biodiversity and Natural Preservation, Environmental Protection Department: Hanoi, Vietnam*, pp101-104, in Vietnamese.
- Schneider, J, L. (2009). 'Reducing the illicit trade in endangered wildlife: the market reduction approach'. In R. White (Ed.), *Environmental crime, a reader* (pp. 587-607). Collumpton: Willan.
- South, N. (1998). 'A Green Field for Criminology?: A Proposal for a Perspective', *Theoretical Criminology*, 2 (2), 211-233.
- Sumrall, K, A. (2009). 'Confronting Illegal Wildlife Trade in Vietnam: The Experience of Education for Nature-Vietnam', Degree of Master of Science (Environmental Policy) in the University of Michigan.
<http://deepblue.lib.umich.edu/bitstream/2027.42/62102/1/UNS-TRA-copy.pdf>. Accessed 25 July 2011.
- TRAFFIC. (2007). 'A matter of attitude of the consumption of wildlife in VN'. Published by TRAFFIC Southeast Asia, Greater Mekong Programme, Ha Noi, Viet Nam.
- TRAFFIC. (2008). 'What's driving the wildlife trade? A review of expert opinion on economic and social drivers of the wildlife trade and trade control efforts in Cambodia, Indonesia, Lao PDR and Vietnam', TRAFFIC, Washington DC.
http://siteresources.worldbank.org/INTEASTASIAPACIFIC/Resources/226262-1223319129600/wildlife_foreword_terms_acknowledgement.pdf. Accessed 23 June 2011.
- Tran, C, K. (2005). 'Access to Medicinal Plant Resources in Vietnam - A Fair and Equitable Sharing of Benefits', Centre for Research and Development of Ethno-medicinal Plant.
http://www.pharm.chula.ac.th/tips/ContentVol29No1_2/1Vol29No1_2P1_9.pdf. Accessed 8 June 2011.

Tran, M, H. (2010). 'Causes, conditions, features, and a number of methods, tricks of illegal wildlife trade', *National Conference of Prevention and Combat the Offence Against Wildlife, Biodiversity and Natural Preservation, Environmental Protection Department*: Hanoi, Vietnam, pp121-126, in Vietnamese.

Trung, T. (2011). 'Who consumes wild animal products in Vietnam?', *Vietnamnet Bridge*. <http://english.vietnamnet.vn/en/environment/8621/who-consumes-wild-animal-products-in-vietnam-.html>. Accessed 12 August 2011.

Trinh, V, L. (2003). About quality of the oriental medicines in the past few years. *Proceedings of the First National Conference on Pharmaceutical Materials*, Ha Noi, pp. 168-173.

Vantomme, P., Markkula, A. & Leslie, R. N. (Eds.). (2002). *Non-wood Forest Products in 15 Countries of Tropical Asia - An Overview*. FAO, Rome, Italy. <http://www.fao.org/DOCREP/005/AB598E/AB598E00.HTM#TOC>. Accessed 24 August 2011.

Vietnam National University – Ho Chi Minh city (VNU). (2011). 'Consumption wild animal products in Ho Chi Minh City', the research report, Vietnam National University, Ho Chi Minh city, Vietnam. http://www.wildlifeatrisk.org/userfiles/file/Survey/Wildlife_consumption_survey/Consumption_of_wild_animal_products_in_HCMC-E.pdf. Accessed 23 July 2011.

Vu, D. H. (2010). 'Difficulties, challenges and recommendations for the preventing, combating and handling violations against natural conservation and biodiversity', *National Conference of Prevention and Combat the Offence Against Wildlife, Biodiversity and Natural Preservation, Environmental Protection Department*: Hanoi, Vietnam, pp 83-88 in Vietnamese.

Vietnam Environmental Administration (VNA). (2008). '4th Country Report: Vietnam Implementation of the biodiversity convention', Report to the Biodiversity Convention Secretariat, Vietnam Environmental Administration, Ministry of natural Resources and Environment, Hanoi, Vietnam. <http://www.cbd.int/doc/world/vn/vn-nr-04-en.pdf>. Accessed 9 June 2011.

Warchol, G. L. (2004). 'The transnational illegal wildlife trade', *Criminal Justice Studies*, 17, 57-73.

White, R. (2009). 'Introduction: Environmental crime and eco-global criminology'. In R. White (Ed.), *Environmental crime, a reader* (pp 1-8). Cullompton: Willan.

White, R. (2007). 'Green criminology and the pursuit of social and ecological justice'. In P. Beirne & N. South (Eds.), *Issues in Green Criminology: Confronting harms against the environments, humanity and other animals* (pp. 32-54). Cullompton: Willan.

World Bank. (2005a). 'Vietnam environment monitor 2005, biodiversity', World Bank. http://siteresources.worldbank.org/INTEAPREGTOPEMENVIRONMENT/Resources/VN_Env_Monitor_05.pdf. Accessed 12 June 2011.

World Bank. (2005b). 'Going, Going, Gone: The Illegal Trade in Wildlife in East and Southeast Asia', Environmental and Social Development East Asia and Pacific Region Discussion Paper, World Bank. http://www.theidgroup.com/documents/WBIllegaltradeinwildlifeinEandSEAsia_000.pdf. Accessed 26 June 2012.

World Wide Fund for Nature (WWF). (2011). *Javan rhinoceros*, WWF. http://wwf.panda.org/what_we_do/endangered_species/rhinoceros/asian_rhinos/javan_rhinoceros/. Accessed 2 September 2011.

Wyatt, T. (2009). Exploring the organization of Russia Far East's illegal wildlife trade: two case studies of the illegal fur and illegal falcon trades, *Global Crime, Special Issue: Illegal Markets and the Economics of Organized Crime*, Volume 10, Issue 1-2, pages 144-154.

Wylter, L. & Sheikh, P. (2008). 'International Illegal Trade in Wildlife: Threats and U.S. Policy', Order Code RL34395 Congressional Research Service.
<http://fpc.state.gov/documents/organization/102621.pdf>. Accessed 14 August 2011.

Zeller, F. (2006). 'Illegal wildlife trade takes heavy toll in Vietnam', *Cosmos*.
<http://www.cosmosmagazine.com/features/online/562/illegal-wildlife-trade-takes-heavy-toll-vietnam>. Accessed 23 August 2011.

Zimmerman, M. (2003). 'The Black Market for Wildlife: Combating Transnational Organized Crime in the Illegal Wildlife Trade', *Transnational Law*, vol. 36, pp. 1672-1673.