**Illegal Wildlife Trade: A Critical Review in Bangladesh**

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**LIST OF ABBREVIATIONS**

|  |  |
| --- | --- |
| **Abbreviation and Symbol** | **Elaboration** |
| % | Percent. |
| *et al.* | And other co-authors |
| BGB |  |
| CITES | The Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CVASU | Chittagong Veterinary and Animal Sciences University |
| INETPROL | International Police Organization |
| RAB | Rapid Action Battalion |
| IUCN | The International Union for Conservation of Nature |
| SAWEN | South Asia Wildlife Enforcement Network |
| TRAFFIC | **Trade** **Records** Analysis of Flora and Fauna in Commerce |
| UNDOC | United Nations Office on Drugs And Crime |
| WCB | Wildlife Centre of Bangladesh |
| WCCU | Wildlife Crime Control Unit  |
| WNCC | Wildlife and Nature Conservation Circle |
| WWF | World Wildlife Fund |

**Abstract**

Illegal wildlife trade is one of the greatest threats to wildlife which is highly active throughout the world and pushing wild animals to become endangered species whereas some endangered species to the blink of extinction. This critical review was back grounded on illegal wildlife trade with special emphasis on occurrence of seized skin (mainly tiger and deer skin) in Bangladesh. The review exhibited the most current picture of illegal wildlife trade reviewing a total 5 years (from 2012 to 2016) of seizure records compiled by Wildlife Crime Control Unit (WCCU) and Wildlife and Nature Conservation Circle (WL&NCC). These records subsume 374 offenses with 566 offenders along with 37,572 seized wildlife and trophies. Total detection percentage of offences and offender were not known, due to clandestine nature of the trade. According to these report, reptiles were rescued most with the occurrence of 51.1% which indicate the highest demand. Seizures of wild birds (mynas, munias, parakeets, lorikeets, water birds etc.) were 46.5% due to domestic demand of birds as pet. Alongside percentage of rescued mammals and trophies were about 1.1% and 1.2% respectively. In case of skin seizure, deer skin occupies the most percentage (70%) than that of tigers (30%). About 36% of Tiger skin and 46% of deer skin were rescued from different places of Khulna and the source is the largest mangrove track of the planet. The monetary value of wildlife crime in the country is approximate $0.72M per year and the maximum value counted for reptiles around $0.45M especially for high level trafficking of geckos and turtles. In conclusion some recommendations were proposed for policy implementation and wildlife management to combat illegal wildlife business.

**Keywords:** WCCU, Wildlife, Wildlife Trade, Tiger

**Chapter I: Introduction**

Bangladesh is located in the Indo-malayan ecozone and is an important home to many wildlife species. The country has about 50 protected areas with a majority of areas under protection being wildlife sanctuaries and game reserves (Wikipedia). Enriched biodiversity of Bangladesh has become an eyesore to her. Despite enormous efforts to protect its wildlife, Bangladesh is faced with high levels of illegal wildlife trade, especially trading of body parts from threatened and endangered animal species like Bengal tigers, elephants, deer, pangolin, snake, birds, turtles etc. (WCCU 2016). Literary this literature-review explored the major species of wild animals facing high demand in illegal trade markets, number of seized/rescued wild animals, trophies etc. in Bangladesh.

From the time being wild animals are captured and killed for various reason including legal or illegal consumption and trade of their skin, bones, teeth, tusks, claws, meat and other organs. These wildlife and wildlife products are globally used as medicine, clothing, atypical exotic food, as pets and ornamentals or trophies. This illegal business includes both live and dead animal species of different class mammals, reptiles, birds, amphibians and marine wildlife. Major victims of the trade globally includes tigers, leopards, deer, elephants, crocodiles, snakes, frogs, geckoes, turtles, tortoises, monkeys, sharks, whales, dolphins and different species of birds namely parrots, hornbill, peacock, parakeets etc. Ultimate result of killing or trading wildlife for skin or other body parts posing a tremendous threat to the existence of wild animals’ e.g. drastic change in number of Royal Bengal Tiger in Bangladesh due to poaching. The actual loss of wildlife through illegal trade is unknown due to clandestine nature of the business and limited law enforcement capacities. Besides, detection of true global scale of trade as well as regional and local levels of illegal wildlife trade is hard to mete as trades often conducted through informal networks. The INTERPOL (International Crime Police Organization) found the global worth of illegal wildlife trade that oversteps 20 billion US dollar per year and it is third highest after narcotics and illegal weapons trade. However, this illegal trade continuously crumbling ups the ecosystems and naturalizing the spread of pathogens and infectious diseases in humans and animals either domesticated or wild animals (WCCU 2016; Patel *et al.* 2015*;* Hansen *et al.* 2012, Barber-Meyer 2010, Karesh *et al.* 2005). A study conducted by Rosen and Smith in 2010 estimated the range of global illegal wildlife trade by analyzing records of 12 years illegal wildlife seizure (967 seizure documents) compiled by TRAFFIC (an international wildlife trade monitoring network) and showed that most seizure originated in Southeast-Asia.

Some factors facilitate or influence the illegal trade all over the world. Global as well as local or regional demand for wildlife and wildlife products (bone, teeth, claw, horn, tusks, shells, bile etc) is significant threat. The remoteness of areas where poaching take place, lack of infrastructure, corrupt officials, transnational crime networks involvement also influence the trade in a regular basis (McCusker, 2006; Dinerstein *et al.,* 2007, Rosen and Smith, 2010).

In Bangladesh, poverty is the leading factor to the wildlife crime or illegal wildlife trades local peoples don’t have alternative source of income and so they are largely dependent on natural sources of forest (e.g. - honey, fish, wood, medicinal plants etc). Local people either involved to the poaching, trading directly or cooperating to the non-local trader to the illegal business indirectly (e.g. by providing necessary information about efficient routes, methods, equipments to capture wild animals of forests).Some animal’s species are seemed to be good source of animal protein (e.g. deer meat) and easiest source of income to the people living near to the forest which provoke the wildlife crime. Insolvency, insecurity, opportunistic hunting tendency, retaliatory and some other factors obsess local people to be involved in wildlife crime or illegal trade. Sometimes armed poachers, hunters or pirates using sophisticated military equipments take lead to the illegal trade with the help of high level corruption and weakened law enforcement (WNCC 2016; Saif *et al.* 2016; Mohsanin *et al.* 2012). Moreover, most offences seem to be committed outside the forests where presence of the forest staff is minimal. For conservation, management and protection of biodiversity and wildlife Bangladesh have collaboration with some International organizations/agencies like CITES, UNDOC, INETPROL, SAWEN, TRAFFIC, WWF, IUCN etc. Apart from, some agencies and organizations are working nationally all over the Bangladesh namely WCB, WCCU, WNCC, RAB, BGB etc. the forest department is the lead agency of all responsible for the forest and wildlife laws in the country. In Bangladesh Constitution, importance is given on Bangladesh Constitution-15th Amendment (2012) under the title of “Protection and improvement of environment and biodiversity” (in article 18A). other legal arms are Wildlife (Conservation and Security) Act, 2012; Biological Diversity Act, 2012; Forest Act 1927, etc. Nevertheless, wildlife trade is one of the growing threats in Bangladesh. (WCCU, WNCC 2016).From Bangladesh illegal wildlife and wildlife products are traded high to China, India, Myanmar, Nepal, Indonesia and Thailand.To date, however, there has been no comprehensive report documenting on the illegal wildlife trade in Bangladesh. Keeping that in view the present work was undertaken to figure out approximate range or scale of illegal wildlife trade in Bangladesh on the basis of seizure records with available data.

**Objectives**

1. To assess the scale or range of illegal wildlife trade in Bangladesh
2. To figure out occurrence of skin production in Bangladesh
3. To identify the different methods those involved in capturing or killing wildlife
4. To identify implication of illegal trade on biodiversity of Bangladesh

**Chapter II: Methods and Materials**

To facilitate data analysis, record of illegal wildlife trade seizure and record of skin seizure (of tiger and deer) are organized separately and two different categorical databases were adopted for the better analysis. Usually records of seizure include information of the impounded species, the number of individuals seized, whether they were alive, dead, or in product form, origin and status of seized wildlife and wildlife products, purpose of trade etc. (Rosen and Smith 2010). Official wildlife seizure records were standardized where skin seizure records were not standardized, so database categories were selected to enclose an extent of potential information. Record of recent 5 years (2012-2016) was collected from official documents of Wildlife Crime Control Unit (WCCU) and categories of database are total wildlife offense, No of seized or rescued wildlife and wildlife products (Mammals, Birds, Reptiles, Trophy) and total number of offenders. On the other hand, for the seized skin part, prime focus was given on tiger and deer which are the most frequently cited animals in the database. A total record of 12 years (2006-2017) was collected unofficially via internet from published paper, newspaper, facebook page of WCCU and different websites relevant to the topic. From those data only data of tiger and deer skin were which included species of animals, date of seizure, place of seizure, number of skin rescued, weight, estimated value of skin. Apart from, for collecting additional information like methods of capturing and killing animals, people involved in trade or killing and factors that influence illegal wildlife trade etc. were collected through Semi-structured interviewing of some forest officers, official staffs, local people and forest rangers.

**Chapter III: Results**

**Scale of illegal wildlife trade in Bangladesh:**

WCCU report December 2016, 701 seizures of wildlife and trophies between 2012 and 2016 were shown in table 1. Report showed that 51% of total wildlife seizure was dominated by reptiles, after that birds 46% and mammals were seized lowest 1.1%. Apart from occurrence of seized trophies was 1.2%. Within 5 years, in 2015 the largest seizure of reptiles and trophies were recorded 8997 (46.47%) and 184 (41.16%) respectively. Highest seizure of mammals and birds recorded 93 (34.70%) and 8157 (46.61%) in 2016.

**Table 1: Wildlife Crime Control Activities Report (June 2012 to December 2016)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Total offence**  | **Number of seized/rescued wildlife** | **Number of offenders** |
| **Mammals**  | **Birds**  | **Reptiles** | **trophies** | **Total** |
| 2012 | 42 | 15 | 961 | 1010 | 40 | 2026 | 119 |
| 2013 | 34 | 45 | 2253 | 3259 | 3 | 5560 | 65 |
| 2014 | 68 | 54 | 2230 | 5700 | 167 | 8151 | 146 |
| 2015 | 130 | 61 | 3897 | 8997 | 184 | 13139 | 171 |
| 2016 | 100 | 93 | 8157 | 393 | 53 | 8696 | 65 |
| Totals  | 374 | 268 | 17501 | 19359 | 447 | 37572 | 566 |
| Occurrence (%) |  | 0.71% | 46.57% | 51% | 1.18% |  |  |

**Figure 1: Occurrence of wildlife seizure in Bangladesh**

Total number of wildlife offence recorded 374 from 2012 to 2016 that varied highly. Lowest offence recorded in 2013 was 34(9.09%) where highest offence was found 130(34.76%) in 2015. On the other hand highest offender recorded 171 in 2015 and lowest no of recorded 65 in both 2013 and 2016. In 2012, 8 cases among 42 had gone through different ranges of punishment and fine, rests were under trial. In 2013, 2014, 2015 and 2016 this number varied as 11, 35, 29 and 18 respectively. Total detection percentage of offences is not known and offenders were not identified in 60% of detected cases (UDOR). Only 20% cases are decided by the courts even after 8 years, conviction rate of the total disposal is 70.65%. Mostly six months imprisonment and BDT 5000 fine seems to be the modal penalty.

**Figure 2: Occurrences of offend and Offenders in recent years**

**Occurrence of skin seizure (skin of tiger & deer) in Bangladesh:**

In Bangladesh most popular source of skin is deer population. Analysis showed that deer skin occupies the higher percentage (70%) than that of tigers (30%). Apart from snake and crocodile are captured, reared or killed for skin but records are not so prevalent in our country. It is said that geckoes are also traded for their skins but those are captured and traded alive.

**Table 2: Records of seizures of tiger skin and deer skin in Bangladesh (from 2006 to 2017)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Serial no** | **Animal species** | **Date of Seizure** | **Place** | **No of skin rescued** |
| 01 | Tiger | 2 November 2006 | Sarankhola, Khulna | 01 |
| 02 | Tiger | 25 August 2008 | Sarankhola, Khulna | 01 |
| 03 | Tiger | 16 February 2011 | Bagerhat | 03 |
| 04 | Tiger | 08 December 2011 | Mothbaria,Pirojpur | 01 |
| 05 | Tiger | 13 April 2013 | Uttara, Dhaka | 01 |
| 06 | Tiger | 17 October 2014 | Satkhirasadar, Satkhira | 02 |
| 07 | Tiger | 14 January 2015 | Morrelganj,Bagerhat | 01 |
| 08 | Tiger | 19 January 2015 | Kalabagan, Dhaka | 01 |
| 09 | Deer | 19 January 2015 | Kalabagan, Dhaka | 05 |
| 10 | Deer |  February 2015 | Sharankhola, Bagerhat | 37 |
| 11 | Tiger | 05 February 2015 | Tala, Satkhira | 01 |
| 12 | Tiger | 20 February 2015 | Bhandaria,Pirojpur | 01 |
| 13 | Deer | 20 February 2015 | Bhandaria,Pirojpur | 14 |
| 14 | Tiger | 25 February 2015 | Assassuni, Satkhira | 01 |
| 15 | Tiger | 25 February 2015 | Assassuni, Satkhira | 04 |
| 16 | Tiger | 16 October 2015 | Satkhira | 02 |
| 17 | Tiger | 26 August 2015 | Khulna city, Khulna | 01 |
| 18 | Tiger | 9 August, 2015 | Mandarbaria, Khulna | 03 |
| 19 | Tiger | 28 March 2016 | Khulna | 01 |
| 20 | Tiger | 04 March 2016 | Bhatiagat | 01 |
| 21 | Tiger | 04 March 2016 | Koyra,Khulna | 01 |
| 22 | Tiger | 26 august 2016 | Koyra, Khulna | 01 |
| 23 | Tiger | 19 August 2017 | Farmgate , Dhaka | 03 |
| 24 | Deer | 19 August 2017 | Dacop , Khulna | 01 |
| 25 | Deer | 01 October 2017 | Dacop , Khulna | 01 |
| 26 | Deer | 18 October 2017 | Dacop, Khulna | 01 |
| Total |  |  |  | 90 |

**Figure 3: Occurrence of seized or rescued tiger and deer skin in Bangladesh**

In case of skin seizure places Khulna had the highest record for both type of skin. About 26% 0f Tiger skin and 46% of deer skin were rescued from different places of Khulna. 14%, 15%, 11% and 7% of tiger skin rescued from Satkhira, Dhaka, Pirojpur and Bagerhat respectively whereas the for deer skin occurrence percentage were 10% for each places.

**Table 3: Hotspot of tiger and deer skin seizure along with percentage of occurrence in each place**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hotspots of trade or seizure | No. of tiger skin seizure offence | Occurrence | No. of deer skin seizure offence | Occurrence |
| Khulna  | 7 | 26% | 3 | 48% |
| Satkhira  | 4 | 14% | 1 | 10% |
| Dhaka | 3 | 15% | 1 | 10% |
| Bagerhat  | 3 | 11% | 1 | 10% |
| Pirojpur  | 2 | 7% | 1 | 10% |
| Total | 27 |  | 7 |  |

**Figure 4: Hotspot of tiger and deer skin seizure**

Besides the data analysis, the study also explored different methods of capturing or killing wild animals that are adopted by people involved in the illegal trade. Methods were listed below (table 5)

Table 5: common methods to capture or kill the wild animals and birds and people involved

**Methods and people involved in poaching, killing or trading:**

Methods used to capture wildlife included poaching, trapping, trailing, shooting, poisoning, netting, harpooning, electrocution, direct collection of juveniles and some other deshi or indigenous methods (Annigeri 2010, Aziz *et al* 2016) . Skins of tiger and deer are skinned and preserved in local methods .This type of crime are very spontaneously done and cooperated by local people living in coastal area (near the forest),corrupt forest officials, security guards of forest, poachers, hunters, empowered local politician and some non local traders.

**Table 4: Methods and people involved in poaching, killing or trading**

|  |  |  |
| --- | --- | --- |
| **Methods**  | **Applied on**  | **Peoples involved** |
| Clubbing | Tigers  | Village resident |
| Poisoning | Large herbivores, big cats | Poacher |
| Electrocutions | Rhinos, tiger, elephant, wild boar etc | Village resident |
| Shooting | All mammals, some birds | Pirates, hunter |
| Harpooning | Whales, turtles | Poacher |
| Netting  | Small birds, small mammals | Village resident |
| Shooting from tree | Tigers, small herbivores | Hunter  |
| Lamping | Nocturnal mammals | Hunter  |
| Trapping and snaring  | Mammals, reptiles | Trapper, poacher |
| Trawling | Corals, shells, marine, invertebrates | Pirates  |
| Collecting juveniles from nest | Birds, crocodiles | Local peoples  |
| Stick and glue | Fast flying birds | Hunter  |
| Some local or indigenous methods  | Mammals , birds  | Village resident |

**Chapter IV: Discussion**

Diminishing number of wild animals per year, prove that huge numbers of illegal wildlife are killed or traded successfully on regular basis. According to the report of WCCU 2016, reptiles were traded high in recent years and 51% of district of Bangladesh has some network with turtle smuggling which is very supporting to the report of Cheung and Dudgeon, 2006, that found large numbers of Southeast Asian turtles were sold in Chinese markets, for sure it is posing threat to the turtle conservation in those countries of Southeast Asia including Bangladesh.

A true estimation of total illegal trade is nearly impossible as the illegally traded wildlife as wildlife products are often creatively concealed during shipment and due to indulgent border security. False or invalid CITES permits are used mostly and sometimes CITES-listed specimens are kept hidden among similar-looking non-CITES species. Mis-declaring a species e.g. declaring Wild-caught specimens as captive-bred, mis-declaration numbers or values, re-export laundering facilitate the illegal shipment**.** In Asia, large quantities of wildlife are transported across borders by truck without any special effort at concealment. Amphibians and reptiles are found in luggage at airports. Customs officials have discovered live birds, eggs, and reptiles hidden inside ceramic garden gnomes, hollow books, computer hardware, a prosthetic leg, and passengers’ clothing, including vests and underwear with pockets custom-designed for this purpose. Smugglers of birds and reptiles commonly conceal specimens and eggs on their own wearing**.** Ivory, in particular, is frequently disguised, often painted to resemble wood or marble. Methods of shipments are often harmful to animals, and shipments frequently contained animals that had died in transit**.** Additionally, many seized animals were noted to be ill, though the cause of sickness was rarely diagnosed, raising concern that illegal wildlife trade may serve as an avenue for pathogen introduction and it impossible to evaluate the true risk of pathogen pollution through the illegal wildlife trade. (CITES 1993; Rosen and Smith 2010). More resources must be devoted to investigating and regulating the illegal wildlife trade at local, regional, and international scales. At the local scale, campaigns to educate consumers about illegal wildlife trade and its impact may help to reduce demand. Programs that encourage the people of target nations to invest in their natural resources can empower them economically, while beneﬁting conservation efforts. At regional and national scales, nations without the independent capacity for enforcement will require help from other nations in the form of partnerships such as ASEAN-WEN, an intergovernmental initiative between 10 Southeast Asian governments to combat wildlife crime (ASEAN-WEN, 2009). In the long term, improving the economic stability of these nations will help to build the infrastructure necessary for effective enforcement and attenuate the economic factors driving much of the trade. To aid in enforcement at transit sites, dogs like those employed by ﬁeld researchers tracking wildlife can be trained to sniff for wildlife in airports. Likewise, port ofﬁcers should receive in-depth training to allow them to identify wildlife to the species level. This is a critical step in identifying shipments containing endangered species that are intentionally mislabeled. A ‘‘decision tree’’-style computer program would be a vast improvement on current species identiﬁcation guides and could be operated successfully by an officer with relatively little training. At the international scale, intergovernmental cooperation and information sharing may be vital in stopping organized crime rings that exploit permeable borders and corruptible ofﬁcials (Zimmerman, 2003). Science also has applications in enforcement: DNA forensic techniques, like those used to trace seized ivory,help enforcement ofﬁcials target high-poaching areas, to stem the problem at its source. Additionally, deﬁnite knowledge of wildlife product origins exposes countries to international sanctions and pressures, forcing responsible government action on behalf of wildlife (Wasser et al., 2008). DNA forensics could be usefully applied to track tiger poachers in India, and identify reptiles entering the pet trade as wild-caught rather than captive-bred. While this approach is expensive, more successful enforcement and stiffer ﬁnes could help to offset the costs of DNA forensics. Finally, scientists can play a greater role in helping to thwart the trade by directing attention to its risks. Future research should examine the pathogens of popular traded species and their potential impact on ecosystems and public health. A more complete knowledge of the health and environmental threats posed by the global scale illegal trade will help nations to guard against and respond to these potential impacts.

**Chapter V: Limitations**

* Small no of data was used for the report which were insufficient to determine the complete picture of illegal trade of Bangladesh
* Detailed records of wildlife seizure like types of mammals, birds and reptiles seized with their total occurrence were not available.

**Chapter VI: Conclusion**

Prompt steps should be taken by Government to protect threatened animal populations through increasing law enforcement and imposing strict punishment, banning the consumption of endangered species and honoring international commitments made under CITES. Adequate environmental education and sensitization is required to create public awareness and to discourage demand for wildlife and their products. Protected area’s officials and staff should be well trained, armed and empowered to defend these animals and deter poachers. Interdepartmental collaboration should be increased to strengthen the enforcement through reducing the information gap. On the other hand, Import countries can also work on reducing demand through educational campaigns and by increasing conviction rate of and penalties for consumers.

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**Author**

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**Biography**

I am Sabrina Ferdous, daughter of MD Abdul Momen and Shalina Akter. I have completed my Scondary School Education from Chittagong Government Girls’ High School, Chittagong in 2009 and Higher Scondary Education from Hazi Mohammad Mohsin College,Chittagong in 2011. Currently I am continuing final year’s academic study in Chittagong Veterinary and Animal Sciences University under Faculty of Veterinary Medicine. From 4th year to till now I am involved with wildlife conservation activities and in future I would like to work as a wildlife conservationist.