



WILDLIFE TRAFFICKING FOR TRADE IN NORTH EAST INDIA: A CASE STUDY

Upadhyaya S*

Dept. of Zoology, T.H.B. College, Sonitpur (Assam); PIN-784189

ARTICLE INFO

Article History:

Received 10th June, 2019

Received in revised form 2nd July, 2019

Accepted 26th July, 2019

Published online 28th September, 2019

Key words:

Gecko, Kaziranga National Park, One Horned Rhinoceros, profit-oriented, threatened.

ABSTRACT

The North East India is a part of the major biodiversity hotspot of the world. Though a wide variety of fauna and flora are endemics, the anthropogenic activities provide a root pressure for the survival of these flora and fauna. Many forms of wild lives are used directly as well as indirectly for the welfare of the people. However, irresponsible wildlife trade is threatening this resource, and those most affected tend to be the poorest people, in developing nations. The primary motivating factor for wildlife traders is economic, ranging from small scale local income generation to major profit-oriented business, such as marine fisheries and logging companies. As human populations have grown, so has the demand for wildlife. People in developed countries have become used to a lifestyle which fuels demand for wildlife; they expect to have access to a variety of sea foods, leather goods, timbers, medicinal ingredients, textiles etc. Conversely, extreme poverty of others means they regard wildlife as a means to meet their short-term needs and will trade it for whatever they can get. Secondary data from already published literatures were consulted. The One Horned rhinoceros and *Gecko* are the mostly poached among vertebrates; the Rhino being killed while the *Gecko* is captured live for sale in foreign countries. Total 771 rhinos were killed during the fifty years period (1968-2017) in the Kaziranga National Park only. The lizard *Gecko* is another vertebrate is of great concern which is traded alive for various purposes. The world market for rhino horn and the superstitious medicinal value of *Gecko* are the major reasons for their trafficking. Public awareness needs to be spread about rumors and myths regarding the medicinal properties of Rhino horn and *Gecko* as well as any other animals being traded for fulfillment of superstitious purposes.

Copyright©2019 **Upadhyaya S.** This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Humans have been reliant on wildlife for food and shelter throughout history. It could be said then that the use of wildlife -both non-human animals and plants - is engrained within human cultures. This relationship with wildlife has led and is currently connected to the over exploitation of species. Today there is not an area of the world that is not touched by wildlife trade. Non-human animals and plants are traded by the hundreds of millions every year. Much of this is legal, but there is a persistent, pervasive illegal trade that is threatening many species. Trade is driven by human consumption; consumption of food and traditional medicines and ownership of rare pets, plants and decorative objects. All types of non-human animals and plants are victims of wildlife trafficking; cacti, orchids, pitcher plants, trees, amphibians, birds, insects, mammals and reptiles. Even a rare fungus in the Himalayas is overexploited. The trade in reptiles as pets, for consumption as food or use in traditional medicines poses an increasing threat to the conservation of many squamates native to the South-east Asian region (Gibbons *et al.*, 2000; Sodhi *et al.*, 2004; Iskandar and Erdelen, 2006; Nijman *et al.*, 2012).

The North-East region of India is rich in biodiversity. This region is a part of the nucleus of the South-East Asia for the global wildlife trade both as a source and as a consumer (Sodhi *et al.*, 2004). Wildlife trade, for use in Traditional Medicine (TM), as pets and for food, poses a significant threat to the conservation of many species in the region. Non-human animals are 'killed' or 'harvested' rather than 'murdered' - a word reserved only for human victims (Wyatt 2013b). Non-human animals are also 'collected' or 'captured', but as Sollund (2011) proposes, this is akin to kidnapping and can certainly be referred to as such. Recent years have seen greater recognition that impacts of wildlife crime reach beyond species, undermining good governance, reducing opportunities for legitimate income generation and affecting local communities, the rural poor and national economies.

The present paper is an attempt to focus attention on the myriad impacts wildlife trafficking can have on man and environment with special reference to N. E. India.

The dark figure of wildlife trafficking: Case studies from N. E. India

Gecko: A case of live trade: The North-East India is known for awesome natural bounty and amazing wildlife. While many have heard about endangered one horned Rhino and wildcat

*Corresponding author: **Upadhyaya S**

Dept. of Zoology, T.H.B. College, Sonitpur (Assam); PIN-784189

species found in these states, not many are aware about the rare reptile species. The truth is, in forest and hills of Northeast India, a number of rare and endangered reptiles are found. Some of these are facing threat of extinction owing to trafficking and rampant killing by humans. One of these is the Tokay Gecko Lizard.

In recent years, the Tokay gecko is facing threat of extinction like never before. In states like Manipur and Nagaland, these lizards are being captured randomly and sold for reported medicinal properties. In Asian subcontinent, its body parts are sold at high rates owing to belief that its usage can heal killer diseases like cancer and AIDS. Some tribes also believe it can be used to cure diabetes. However, no feasible and scientific evidence exists that can corroborate such beliefs. In Tezpur of Assam and several other cities, illegal rackets of lizard trading have mushroomed in recent years.

The Wildlife (Protection) Act, 1972 specifies trade of these lizards is illegal and killing them is not permitted either. However, more stringent laws need to be introduced and deployed to stop mass killing and trading of these lizards.

Rhinoceros: The horn of sorrow: Rhino poaching in North-East India especially in Assam is one of the major environmental issues in India which continues in the region of Kaziranga National Park, Manas National Park, Orang National Park and Pobitora Wildlife Sanctuary of Assam. The one horn rhino or Indian rhino is surviving in the North-East region of India, Assam account almost 95% of the total wild One horned rhino in the world. These rhinos are inhabited most of the floodplain of the Indo-Gangetic and Brahmaputra riverine tracts and the neighboring foothills.

Sport hunting became common in the late 1800s and early 1900s which results in abrupt decrease in rhino population in Assam. By 1908, the population in Kaziranga had decreased to around 12 individuals (Laurie, *et al.*, 1983). In the early 1900s, the species had declined to near extinction. But, serious concern for conserving the One horned rhino since later part of 1900s is causing an increase in rhino population in the national park. However, due to increasing population the overexploitation of the wildlife is causing a serious effect on decreasing the number of the rhino population in the national park. A comparative assessment of the years between 1968 to 2017 shows that the highest number of poaching of rhinos go to 92 in Assam with maximum 45 (total 5.84%, 1986) in Kaziranga NP.

like. Some of the more significant issues are discussed as follows:

Environmental impacts: Environmentally, wildlife trafficking threatens biodiversity through the extinction of the species that are trafficked; by the introduction of invasive species that can then out compete native species, disrupting ecosystems and again possibly leading to extinction; and through the introduction of diseases that might be transmitted to native wildlife, again causing ecosystem disruption and once again possibly leading to extinction. Extinction is problematic not only for the loss of life of that species, but also because loss of one species can lead to the instability of the ecosystem and in the case of timber and coral greatly impact upon climate change. When ecosystems are disrupted and/or environmental degradation is significant this can impact upon human populations as will be discussed later. Environmental security then – having access to a safe, healthy and sustainable environment that can support long-term life of people and other species is essential for the environment, humans and other species, but can be compromised in the ways listed above by wildlife trafficking, as will be demonstrated.

Loss of biodiversity: Biodiversity loss is often associated with habitat destruction where plant and non-human animal species get squeezed out of their natural ranges because of human encroachment. Loss of habitat and limited access to food sources then leads to a reduction in species and a decrease in biodiversity in these areas. A contributing factor to biodiversity loss, though acknowledged much less often, is the direct harvesting, collecting, hunting and poaching of wildlife for human use and consumption. Assam is a case in point where both tiger and rhinoceros populations are threatened because of poaching. Tigers are the apex predators of food webs, so the loss of this species has significant effects on the composition of the entire ecosystem. Prey species can reach high numbers with no predation, which can greatly reduce and disrupt the amount of base foods. This can destabilize the entire ecosystem as the food availability for many species is then out of balance (Shark Alliance, 2010). Biodiversity loss is the result of direct human consumption of wildlife. It also takes place because of the ecosystem disruption stemming from that consumption.

Introduction of invasive species: Linked to the loss of biodiversity stemming from wildlife trafficking is that wildlife trafficking can be a vehicle for the entry of non-native or

Table 1 Showing the year-wise poaching of One Horned Rhino in KNP, 1968-2017

Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
No. of Poaching	10	8	2	8	0	3	3	5	1	0
Year	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
No. of Poaching	3	2	11	24	25	37	28	44	45	23
Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
No. of Poaching	24	44	35	23	49	40	14	27	26	12
Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
No. of Poaching	8	4	4	8	4	3	4	7	5	16
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of Poaching	6	6	5	9	11	27	27	17	20	4

Multifaceted negative impacts of wildlife trafficking

What may appear to be just a single act of killing an animal or capturing it live for wildlife trade can actually have many different types of impact which effects the environment, biodiversity, human beings, society, national security and the

invasive species into an ecosystem. This clearly has environmental security implications, because life support systems and ecosystem services can be damaged with the introduction of disease and/or invasive species. Such occurrences are thought to be increasing around the world. It is in fact difficult to estimate the amount of illegal wildlife trade

and in this instance, the number of potential invasive species that have entered various regions. Part of the problem with illegal shipments is the lack of inspection, which creates the possibility of stop away wildlife being transported with the smuggled wildlife and becoming an invasive species or introducing a disease to the new environment (Wyatt 2013a).

Disease transmission: Not only can invasive species brought by wildlife trafficking decrease biodiversity and destabilize ecosystems, but wildlife trafficking can also serve as a mechanism for carrying diseases. As Karesh *et al.* (2005) have indicated, the international dimensions of both wildlife trade and markets where non-human animals from around the world are coming into contact with each other creates the conditions for naturally occurring diseases that were once isolated to certain species to be readily passed between non-human animals. This, coupled with the speed of modern transportation enables the spreading of disease in ways not witnessed before (Karesh *et al.* 2005). Additionally, non-human animal diseases have the potential to infect farm and agricultural industries. This has welfare implications as livestock would undoubtedly be culled if there was the threat that they were infected. Furthermore, there would be economic impacts if a disease were to be transmitted into a non-human animal industry both for the businesses involved and the people employed within these areas. There is also the possibility that the disease could endanger people, as it has been documented in recent years that some diseases do have the capacity to transfer to humans as well as non-human animals, such as Severe Acute Respiratory Syndrome (SARS) and the Ebola virus. The connection to industry leads to an exploration of economic impacts of the illegal trade of wildlife.

Economic impacts: The threats of wildlife trafficking may not be confined to impacting upon one aspect alone as mentioned above. Certain threats are in fact cross-cutting amongst the different aspects of society. That is the case with all of the above environmental impacts—loss of biodiversity, introduction of invasive species and disease transmission—all have the potential to induce economic impacts. This is because wildlife trafficking can threaten natural resources which a society might be reliant upon for income in the form of government tax revenue, business profits and personal livelihoods. Businesses can be threatened, such as within the agricultural industry when invasive species and diseases are introduced. This can then damage the livelihoods of people in those sectors as well as decrease the profits of companies and the tax revenue for governments. Food scarcity and environmental insecurity also have economic impacts as they may force people to move to new locations. The financial burden of this may be at an individual level, but arguably, if it occurs on a large scale, this type of migration from environmental degradation may require to be supported by governments (Wyatt 2013b).

Business and industry: Many global industries and businesses depend upon a healthy environment to support their practices. In fact, the UNEP (2007) estimates that half of the world's jobs are linked to fisheries, forestry and agriculture, all of which are dependent upon ecosystem stability and health. As shown, loss of biodiversity, invasive species and disease can damage the health of the environment and in turn these industries that are reliant on it. The illegal wildlife trades, because it can and does cause these environmental threats, then

has a connection to the economic well-being of industry, governments and individuals.

A prominent example comes from the poaching of the pangolin in N. E. India. The pangolin is an insectivore that is now one of the most trafficked non-human animals in Asia because of the demand for their exotic meat and traditional medicines made from pangolin scales (Pantel & Anak, 2010). One pangolin eats as many as 70 million ants and other insects annually, so is essential in balancing the ecosystem as well as controlling 'pests' within farming regions as per record of World Association of Zoos and Aquariums (WAZA, 2011). With the loss of the pangolin throughout much of its range, it is predicted that pest levels will rise in the area and more crops will suffer damage, resulting in financial losses and the threat of food scarcity. Lack of food or damage to the environment that limits its ability to support life because of over exploitation of a species within that ecosystem is further proof of wildlife trafficking's link to environmental security issues. This raises concerns for businesses, governments and people.

Human impacts: As discussed above, there is the potential that wildlife trafficking can impact upon the revenue of businesses and governments. This of course has a personal impact upon individual people as well. So, human well-being can be damaged economically through the illegal wildlife trade. Additionally, though, from the environmental impacts, human well-being and security can also be physically threatened through the introduction of zoonotic diseases from unregulated wildlife, such as SARS from civet cats and Ebola from monkeys. Physical well-being and security can also be threatened by the violent nature of some of the black markets of wildlife.

Effect on livelihoods: When industries suffer because of an unhealthy environment, in this case from disease or invasive species introduced from the illegal wildlife trade, individual people are also negatively impacted. Since, as stated above, half of the world's jobs are linked to the environment (UNEP 2007), disease or degradation can have far-reaching negative consequences. The jobs referred to are within the fishery, forestry and agricultural industries, which are all susceptible to the dangers posed here. Large-scale damage to any of these sectors has the potential to negatively affect the security and the well-being of the people that are reliant on these products for food or as a means of employment.

In addition, though, there are people who are reliant on the environment outside of employment. Rural villagers and other populations of people are directly sustained by the land they live on. Deforestation, biodiversity loss (from poaching or invasive species) and/or disease can damage people's environment to an extent that it will no longer support them; this means not a loss of income, but a loss of food and shelter, which ultimately has impacts on migration and on people's health. With clear cutting of forests and illegal logging for timber trafficking, many of these people will lose access to forest products that they are reliant on (Four Corners 2002).

Health: In addition to economic and subsistence livelihoods suffering from environmental degradation, which is tied to wildlife trafficking, individual human health can be threatened by the smuggling of wildlife. Trading of non-human animals can pose a risk to human health through the transmission of zoonotic diseases. Zoonosis is where a disease passes from a non-human animal host to a human. Spreading of such disease

has been shown to correlate with unchecked wildlife trade (Naim, 2005). SARS and the Ebola virus, as mentioned, are two of the more well-known diseases of this kind. Yet, there are a myriad other that could threaten human well-being and are more prevalent than those mentioned.

National security impacts: The use of violence to gain and protect profits obtained from varying wildlife black markets uncovers the fact that the illegal wildlife trade should be and needs to be considered in traditional national security concerns. It can threaten national security because wildlife trafficking is carried out through corruption at various levels, organized crime and possibly terrorists and insurgents. All of these actors are known to challenge the rule of law and the sovereignty of various countries around the world. This can destabilize nations and regions and is therefore a national security issue. The concept of national security employed here is one that is broader than the traditional view of security that focuses on military security. Conceptualized here, national security encompasses larger territorial inviolability (Romm, 1994) in addition to economic and political interests that protect the values and stability of the state. Threats to national security occurs when actions or threats of actions impact upon the state's capability to ensure these interests and values. As is evident then, elements of wildlife trafficking can limit the state in these ways. Additionally, wildlife trafficking, as mentioned, creates environmental insecurity and this insecurity also limits the state's ability to protect economic and political interests as well as the values and stability of the nation. Environmental insecurity is therefore linked to national security and thus wildlife trafficking impacts upon national security in multiple ways.

Corruption: Official corruption is integral to much of the perpetration of the illegal wildlife trade. Much of the smuggling of non-human animals and plants that make up this black market would not occur were it not for corruption of the officials in origin, transit and destination countries as well as corruption of the employees of transportation agencies involved along the smuggling chain. Officials, who oversee the issuance of permits for procuring wildlife, and for importing and/or exporting, can be bribed to give permits that appear to make trading certain wildlife legal. Customs agents along the black-market routes are also subject to corruption and can ignore smuggling if bribed. Corruption can be beyond these individual people profiting from wildlife trafficking; it can be much more systemic in nature and occur at high levels of government. Those corrupt officials profiting from the black market may enable the trade to continue by not implementing the pertinent legislation. Additionally, there may be instances where enforcement of laws relating to wildlife trafficking are actively not enforced.

CONCLUSION

There are many important reasons why the illegal wildlife trade is a significant crime that warrants more attention from governments and others engaged in the fight against all types of crime. The threats to the environment posed by wildlife trafficking arise from the loss of biodiversity that it can cause, and the disease and invasive species that can be transmitted and transported with the illegal wildlife. All of these can produce instabilities in ecosystems that can then disrupt human lives and industries thus having far-reaching effects beyond environmental damage. Environmental insecurity of this kind

could potentially force the movement of large numbers of people who live in proximity to degraded environments.

There are separate economic and human concerns as well. National revenues can be lost when trafficking circumvents proper channels where taxes would be collected. This could well result in fewer social services and less money for infrastructure or other projects that could draw corporate and international investment. Disease within the agricultural sector can compromise food supplies causing lost income and endangering human life. Food scarcity is another aspect of environmental security that could be linked to the illegal wildlife trade. Disrupted ecosystems may no longer produce food for wildlife or for people. Without access to food people may become environmental refugees, which not only affects individual people, but could also have large-scale economic implications for governments' and aid agencies. Wildlife trafficking is facilitated by corruption, organized crime, terrorists and insurgents, so is also linked to powerful criminal elements that challenge the rule of law and the legitimacy of some nations. These elements also pose risks to human physical wellbeing and security by employing violence and potentially destabilizing government institutions.

Better understanding of how the varying wildlife black markets function and developing tactics to combat them will not only help to save wildlife and the environment, it will also aid in combatting other crimes, threats and harms. The combination of risks and threats in multiple aspects of society and the links to conventional crimes and human well-being makes the illegal wildlife trade a significant danger that needs to be targeted for concerted efforts to curb the amount of wildlife that fuels this black market.

Acknowledgement

The author is thankful to Prof. Manideep Raj, Assoc. Prof., PG Dept. of Zoology, Darrang College, Sonitpur (Assam) for valuable suggestions and guidance.

References

- Gibbons, J.W., Scott, D.E., Ryan, T.J., Buhlmann, K.A., Tuberville, T.D., Metts, B.S., Greene, J.L., Mills, T., Leiden Y., Poppy, S. and Winne C.T. (2000): The Global Decline of Reptiles, *BioScience* 50(8) pp 653-666.
- Iskandar, D. T. & Erdelen, W.R. (2006): Conservation of amphibians and reptiles in Indonesia: issues and problems. *Amphibian and Reptile Conservation* 4(1) pp 60-87.
- Jordan, A. and Taylor, W. (1981): *American National Security*. Baltimore, MD: Johns Hopkins Press.
- Karesh, W., Cook, R., Bennett, E. and Newcomb, J. (2005): Emerging Infectious Diseases. Available at: <http://www.cdc.gov/ncidod/EID/vol11no07/05-0194.htm>.
- Laurie, W.A.; Lang, E. M.; Groves, C.P. (1983): "Rhinoceros unicornis" (PDF). *Mammalian Species*. American Society of Mammalogist (211): 1-6.
- Naim, M. (2005): *Illicit: How Smugglers, Traffickers and Copycats are Hijacking the Global Economy*. London: William Heinemann.
- Nijman, V., Shepherd, C.R., Mumpuni, Sanders, K.L. (2012): Over-exploitation and illegal trade of reptiles in Indonesia. *Herpetological Journal* 22 pp 83-89.

- Pantel, S. and Anak, N.A. (2010): A Preliminary Assessment of Sunda Pangolin Trade in Sabah. *A TRAFFIC Report*. Southeast Asia: TRAFFIC.
- Romm, J. (1994): *Defining National Security*. Washington, DC: Council on Foreign Relations Press.
- Shark Alliance. (2010): About Us. Available at: <http://www.sharkalliance.org/v.asp?rootid=3&level1=3&level1id=3&level2=7076&level2id=7076&nextlevel=7076&depth=2>.
- Sodhi, N.S., Koh, L.P., Brook, B.W. and Ng, P.K.L. (2004): Southeast Asian Biodiversity: an impending disaster. *Trends in Ecology and Evolution* 19(12) pp 654-660.
- Sollund, R. (2011): Expressions of Speciesism: Animal Trafficking and Species Decline. *Crime, Law & Social Change*. 55: 437–51.
- United Nations Environment Programme (UNEP) (2007): *Global Environment Outlook 4*. Nairobi, Kenya.
- Wyatt, T. (2013a): The Local Context of Wildlife Trafficking: the Heathrow Animal Reception Centre. In Westerhuis, D., Walters, R. and Wyatt, T. (Ed.) *Emerging Issues in Green Criminology: Exploring Power, Justice and Harm*. Basingstoke: Palgrave Macmillan: 142-63.
- Wyatt, T. (2013b): Wildlife trafficking: A Deconstruction of the Crime, the Victims and the Offenders. The Palgrave Macmillan.

How to cite this article:

Upadhyaya S (2019) 'Wildlife Trafficking for Trade in North East India: A Case Study', *International Journal of Current Advanced Research*, 08(09), pp. 19890-19894. DOI: <http://dx.doi.org/10.24327/ijcar.2019.3868.19894>
