Chapter 1:
Introduction

A perspective of Wildlife Trade
Wildlife, as defined under Sec. 2(37) of the Wildlife (Protection) Act 1972, of India “includes any animal, aquatic or land vegetation which forms part of any habitat.” The use of the word “includes” is meaningful as well as important as it emphasises that this definition is open ended and not all comprehensive.

Preference and utilisation of various resources by any community is shaped by its historical, social and cultural context. This is especially true of wildlife. Wildlife, in its various forms has been traded since times immemorial.

Wildlife trade includes any sale or exchange of wild animal and plant resources by people. This can involve live animals and plants or a diverse range of products needed or prized by humans—including skins, medicinal ingredients, tourist curios, timber, fish and other food products. Most wildlife trade probably occurs within national borders, but there is also a large volume of wildlife in trade internationally. (TRAFFIC 2013).

Man’s exploitation of wildlife for profit is not a recent phenomenon and the international trade in wildlife has been widespread for many centuries. (Hutton & Dickson 2000).

The trade can take many forms. From local consumption of wildlife derivatives for medical and therapeutic reasons to species traded across regions and nations, the trade encompasses local, regional and global levels.

Thus, throughout history, a great variety of wild animals, large and small have been collected as curiosities and products derived from them used for many purposes, including clothing, adornment, decoration, charms or trophies, if not for food and medicine. (Donovon 2004).
Human relationships with wildlife may vary widely across geospatial landscapes, from being part of myth, mythology and folklore, commanding respect to fear to being commodities of commerce.

In Asia, as across many other regions across the globe, wild animals have played an important role in culture and history. Archaeological evidence and written records indicate that wild animal and plant products have been major trade items between South and South East Asia and China for more than two millennia. (Donovan 2004).

While wildlife trade is clearly not a recent phenomenon, the factors and drivers of this trade seem to have evolved across human history.

Rare and exotic animals - live or in the form of derivatives - were a special form of exchange between cultures and civilizations, not necessarily always qualified or acknowledged as "trade" but with the same impact.

Thus, the Royal Menagerie established in the Tower of London by King John, who reigned in England from 1199-1216 was known to have held several exotic species including lions and bears. It seems to have been a private collection for the king, a sign that he enjoyed good relations with foreign monarchs, who presented him with animals. The Duke of Wellington finally ordered it closed in 1835. (BBC 2005).

The musk of civet cats has been a valued substance since Biblical times and was later particularly appreciated in the Arab cultures. (Roth 1997). In recent times, the Tirumala Tirupati Devasthanam Board in India has offered to fund breeding of the small Indian civet (Viverricula indica) provided it is allowed to collect a secretion from the animal for use in temple rituals. (Deccan Herald 2011).

The impact of animals and plants on human health cannot be overemphasized. Of the 2,50,000 higher plant species recorded on earth, more than 80,000 species are reported to have at least some medicinal value and that some
50,000–70,000 plant species are used in various forms of traditional and modern medicine globally. Many animals of wild provenance have constituted important part of food and pharmacopeia for communities and groups.

Plant–human relationships are as old as human history. It is generally acknowledged that the earliest known medical document is a 4000-year-old Sumerian clay tablet that recorded plant remedies for various illnesses. (Karunamoorthi et al 2013).

The Rig Veda, believed to written in India between 4800 and 1600 BC is considered one of the oldest records of use of plant products for human health. The Indian Subcontinent contains about 25,000 species of vascular plants, of which at least half are endemic to the region. The 7000 medicinal plants used by the various traditional medical systems account for 28 percent of the region's flora—a very high percentage. (Lambert et al 1997).

In AD 77, the Greek surgeon Dioscorides published ‘De Materia Medica’, a catalogue of about 600 plants in the Mediterranean region, with information on how the Greeks used the plants, especially for medicinal purposes. The records from earlier cultures of Africa and China, the Nile and the Indus valleys have also revealed the use of herbal medicines by the inhabitants of those regions over several millennia (Khan 2013).

The use of traditional medicines in healthcare as a driver of wildlife trade presents an interesting dichotomy. Despite globalization and modernization, a sizable fraction of the rural poor across the globe largely rely on the traditional medicines as their primary support for health care. Also, a small but significantly growing market in developed nations also offers such traditional healing options at the high end of the table. For developing nations though, the use and dependence on traditional medicinal plants in health care system is only expected to increase in the future. (Karunamoorthi, et al 2013) This is largely because of affordability, cultural acceptance and difficulty in access of other modern healthcare service.
Overall, it has been estimated that of the 1.2 billion people in absolute poverty (with an income of less than US$1/day), up to 150 million (13%) rely on wildlife as a key element of their livelihood asset base (DFID 2002).

As such, these have implications in any understanding of wildlife trade.

Across India and South Asia, wildlife is traded for a variety of reasons.

These include

- Food
- Fuel and fodder
- Handicrafts
- Building materials
- Clothing and Ornaments
- Healthcare
- Sport
- Pets
- Private or scientific collections
- Religion and traditional beliefs

(from Sinha 2010)

For many species in wildlife trade, it may be interesting to see the nature of trade through a spatial prism.

Since the nineteenth century, Tibetan luxury animal products like musk, stag antler, bear gall and fox or leopard pelts fetched high prices in colonial and regional Asian markets, which demanded an ever increasing supply (Donovan 2004). There is also evidence of purchase of large quantities of valuable game animal products from peasants by influential Tibetan lama corporations (bla-brang) and monastic business managers (phyag-mdzod) for trading to China and India.... (Huber 2004)

It may be interesting to point out that most of these products are no longer locally available in the Tibet of today, which has emerged into a major market
for wildlife products sourced from outside the region from countries like India & Nepal.

On a much larger historical scale, the medicinal use of parts and derivatives of large cats in Asia, particularly the tiger is rooted deeply in Oriental traditions and myths which can be traced back to the Ch’in (221 BC) and Han dynasties (20 BC). (Roth et al 1997).

In a tropical regime, many species of large carnivores, occurring in relatively low densities, would be less attractive in a subsistence hunting regime as they were unlikely to constitute a major component of “food’ or essential clothing. However, they would have limited use as status symbols and /or for decorative purposes. However, in many competitive societies of Asia, conspicuous consumption plays an important role culturally and thus, the demand for wildlife as exotic and expensive consumables is likely to persist for some times to come. (Donovon 2004).

While most such trade was at the local level and largely subsistence driven, with the advent of market driven economies driving resource procurements, this whole argument was turned upside down This impact of globalisation was severely magnified when commercial expansion was accompanied by the decline in local institutions of resource management and the breakdown in the regulatory authority (Donovon 2004  pp 104).

Rarer species suddenly became more attractive commercially, as the catchment of the market exploded across political and regional boundaries. This was primarily for sport, for status or hobby. However, the bulk of the trade continued to be dominated by species with likely attributes of high density, large range, and high fecundity. These most commonly traded species may likely be able to sustain a much higher take for the very attributes stated above and were not necessarily those most at risk from over collecting. Many of such species were also likely to be domesticated for harvesting, this providing an alternate source of flow to the market. Thus, the most commonly traded species are not necessarily those that are most at risk from over collection.
In contrast, species with restricted ranges, high levels of endemism (e.g., small island species), or life-history strategies that depend on high adult survivorship could be detrimentally affected by even a small number of individuals being removed from the wild.

Determining sustainable rates of take is a complex undertaking that depends on many factors, such as the abundance, behaviour and life-history characteristics of a species, and a host of socioeconomic factors (Schlaepfer et al 2005). In the developing nations, use of wild-living natural resources by rural communities is rarely a choice but an economic imperative (Abensperg-Traun, M. 2009). Most legal frameworks, including that of CITES do not have a reference to this important social context.

However, this issue is at the crux of the wildlife trade debate.

**Scale of Wildlife Trade**
The scale of wildlife trade can at best be an educated guess. This is largely because at the local end of the trade chain, such interactions can be based on informal arrangements including barter and difficult to quantify, as they do not form part of any well-documented market economy. A significant part of such trade e.g in bushmeat, is also likely in contravention of local, national and international laws, further lowering incentives for comprehensive documentation. CITES notes that the trade in bushmeat involves many species included in the Appendices of the Convention but also species, the trade of which is not regulated by CITES and that poaching and illicit trade in bushmeat constitute the greatest threat to the survival of several wildlife species in Africa in general, but especially in Central Africa, and also in all other countries in the world.

There are at best, limited studies on the scale and extent of wildlife trade within national boundaries. International trade is where the information is most likely
to be available and yet, these records at best represent snap shots of the nature and extent of wildlife trade.

The USA is acknowledged as one of the largest markets of wildlife globally. It is estimated to purchase nearly 20% of all legal wildlife and wildlife products in the market (Alarcon 2001). Many analysts also agree that the demand for illegal wildlife in the US is likely to parallel the US demand for legal wildlife. This clearly indicates that the United States may be a significant destination for illegal wildlife and the magnitude of the illegal trade may be increasing (Wyler and Pervaze 2008, 2013).

For example, during 1998-2002, the United States imported 14.7 million wild-caught whole amphibians, 5.2 million kg of wild-caught amphibians, and 18.4 million wild-caught reptile parts and products, and exported 26 million wild caught whole reptiles (Schlaepfer et al 2005).

Over half a million shipments containing >1.68 billion live animals were traded by the U.S. between 2000 and 2006. Seventy-nine percent of shipments were imports containing <1.4 billion live animals. 92% of these were designated for commercial purposes (largely pet trade) and ~80% contained animals from wild populations.

Records of trade in species listed under CITES and governed by CITES permits also capture details of such trade.

Between 2005 - 2009, the CITES database has recorded an annual average of more than 317,000 live birds, just over 2 million live reptiles, 2.5 million crocodilian skins, 1.5 million lizard skins, 2.1 million snake skins, 73 tonnes of caviar, 1.1 million coral pieces and nearly 20,000 hunting trophies. (TRAFFIC 2017) http://www.traffic.org/trade/ (accessed on 12 March 2017).

In addition, sectoral details of trade in wildlife such as timber and marine fisheries are available across several institutional and other studies. The volume of China’s forest product imports from Africa has doubled in the last
decade from around 1.7 million m$^3$ in 1999 to 3 million m$^3$ in 2009 (Huang 2013)

On an alarming note, it has been forcefully argued that the magnitude of trade reported by CITES may be inaccurate (Robbins 1998; Bruckner 2001; Blundell & Rodan 2003, respectively in Blundell et al 2004, Blundell and Mascia 2005). If such inaccuracies are widespread, this might distort perceptions of the relative risk that targeted exploitation of wildlife poses to global biodiversity, leading to misallocation of management resources and less effective conservation strategies.

And, to note this is about what is by far one of the most comprehensive records of international trade in wildlife species listed and regulated under the CITES convention.

It is clear that wildlife trade is a major economic activity across people, communities, regions and countries.

It has been estimated that the annual value of the alpine and sub-alpine medicinal plant trade to rural harvesters in Nepal is in the range US$0.7–3.3 million with a value of US$2.3 million in 1997-98. Also, 7–10% of the populations in areas classified as ‘mountain region’ derive incomes from the alpine medicinal plant trade. The authors themselves acknowledge this figure to be a “highly conservative estimate” (Olsen et al 2003).

TRAFFIC has estimated the value of legal, international wildlife trade alone to be worth nearly USD300 billion in 2005, based on declared import values. A discernible trend also seems to be a steady increase in value (Roe, D. 2008).

The European Union (EU) ranks as the top global importer by value of many wild animal and plant commodities, including tropical timber, caviar, reptile skins and live reptiles. The legal trade in wildlife products in the EU had an estimated declared import value of EUR93 billion in 2005. (Engler, M. and Parry-Jones, R. 2007).
The CITES Trade Data Dashboards provides an interactive, dynamic way of viewing the trade data submitted by CITES Parties in their annual reports to the Convention. The Global Dashboard provides an overview of global trade trends by taxonomic group and shows only a subset of the over 15 million records found in the CITES database. Some snapshots from 2010-2014 are as follows:

**Chart 1:**

![Graph of Global trade in mammals](image)

*Source: All Term: Live Years: 2010-2014*
Chart 2: Global trade in birds

Source: All Term: Live Years: 2010-2014

Chart 3: Global trade in reptiles

Source: All Term: Live Years: 2010-2014
Some important attributes of wildlife trade are immediately discernible:

1. Wildlife trade is a major economic activity that has important implications for human well-being. Such resource use is also anchored in local cultural and social contexts.

2. The trade has important implications as an economic activity for livelihoods of poor people and also for resource rich but economically poor nations.

1. Wildlife resources are generally seen as common property or open access resources and can be accessible to remote and/or socially weaker communities.
2. Wild resources can be usually harvested and used or made available to the primary market with little processing and with low-cost technologies. This could also lead to wasteful harvesting and processing and undervaluation, at least at the primary points of sale.

3. Wild resources are available for direct consumption or sale in times of economic hardships such as when crops fail or when other livelihood options are adversely affected.

4. The attributes such as numbers and nature of players involved in the trade may vary widely with the species and nature of trade.

5. Trade chains in wildlife products between harvester and end-consumer can be highly complex. The nature of such trade is that it is often carried out through informal networks.

6. While most wildlife trade occurs within national borders, sold and used locally or transported for sale in urban centres, a significant portion is also sent across national borders to markets in neighbouring countries or shipped half way around the world.

7. For these and variety of other reasons, the trade is relatively poorly managed and documented or captured in government statistics, as compared to most other forms of “mainstream economic activity”.

8. As such, the incentives to conform to laws and regulations can often be poor, the related crimes can carry little or no social stigma and the probability of getting punished or even caught for such offences is low.

9. As such, such trade can at times be unsustainable and contribute significantly to extensive species loss and ecosystem degradation.

10. However, when managed well, such trade can make very significant contributions towards sustainable livelihoods and development, especially in developing economies. It can also be beneficial to species and habitats.

11. Not ALL wildlife trade is illegal. In fact, most of it is legal. However, whatever is acknowledged as legal need not be sustainable and all illegal trade may not be unsustainable.
Illegal Wildlife Trade:
If determining the extent of the legal trade in wildlife presents a challenge, the same is much more amplified when attempting to understand the magnitude and nature of illegal wildlife trade.

The illegal wildlife trade is probably best understood as a collection of specialized sub-disciplines – each one accompanied by its own smuggling methods, trafficking routes and markets (UNODC 2007).

Thus, while there are “guesstimates” that attempt to capture the enormity and diversity of the trade, snap shots across various sectors perhaps provide the best indicators of this illicit economy.

Despite many suggestions that wildlife and forest offences are one of the most profitable forms of organized crime, only after illegal drugs and trafficking in firearms and ammunitions, it can be extremely difficult, if not impossible, to estimate the true scale of the problem (UNODC 2012 wildlife toolkit pp 16).

Global trade in illegal wildlife is a growing illicit economy, estimated to be worth at least US$5 billion and potentially in excess of US$20 billion annually (Wyler and Sheikh 2008).

According to official estimates by the U.S. government, illegal trade in endangered wildlife products, including elephant ivory, rhino horns, and turtle shells, is worth at least an estimated US$7 billion to US$10 billion annually. This figure does not include illegal logging and fishing, which can account, respectively, for roughly an additional US$30 billion to US$100 billion annually and US$10 billion to US$23 billion annually (Wyler and Sheikh 2013).

The revenues generated by trade in endangered species are estimated at 18 to 26 billion Euros per year, with the EU the foremost destination market in the
world. The trade is principally coordinated by well-organised, loose networks based in the EU and in the source regions. (EUROPOL OCTA 2011). A perception of low risk and high profitability associated with this crime area is likely to continue to attract interest from Organised Criminal Groups (OCGs) (EUROPOL SOCTA 2013).

In 2001, around EUR60 million was lost to Caspian Sea range States due to illegal sturgeon fishing and trade, while illegal logging costs developing country governments an estimated EUR10-15 billion every year in lost revenue (TRAFFIC 2010).

The total value of current illegal and unreported fishing losses worldwide is estimated between US$10 billion and US$23.5 billion annually, representing between 11 and 26 million tonnes (Agnew et al 2009).

The total volume of suspicious wood exports worldwide is estimated to exceed 30 million cubic meters and is valued at almost US$5 billion. Most of the illegal exports involve roundwood (almost 18 million cubic meters). Illicit exports of lumber and plywood are smaller in volume, but higher in value. (Schloenhardt 2008).

The EU-TWIX database for the period 2007-2011 records a total of 12,486 seizure records of illegal wildlife products across the European Union (Mundy-Taylor 2013).

Between 2001-2007, the UK alone has seized over 142 t of illegally traded Ramin, a CITES Appendix II-listed timber species often used for picture frames and snooker cues. In addition, between 2000 and 2005, almost 12 tonnes of caviar were reported as having been seized in the EU and Switzerland (Engler, M. and Parry-Jones, R. 2007).

More significantly, the US Congressional Research Service has also found that wildlife trade now ranks in the upper tier of the world’s most lucrative illicit
economies, behind only illegal drugs and possibly human trafficking and arms trafficking (Wyler and Sheikh 2008 pp 2).

Speaking at the Partnership Meeting on Wildlife Trafficking on 8th November 2012, Hillary Rodham Clinton, U.S. Secretary of State said, “Over the past few years wildlife trafficking has become more organized, more lucrative, more widespread, and more dangerous than ever before”. She also added that, by some estimates, the black market in wildlife is rivaled in size only by trade in illegal arms and drugs http://voices.nationalgeographic.com/2012/11/08/u-s-pursues-global-strategy-to-end-trafficking-in-wildlife/.

Experts widely acknowledge the casual links between wildlife trafficking and declining biodiversity. Less well known are the economic, social and public health impacts. Illegal wildlife trade also lowers the economic value of legally traded wildlife, contributes to poverty, impairs sustainable development and undermines the rule of law (McMurrey 2009).

**The threats:**

Illegal wildlife trade presents several threats. These include, but may not be limited to the following:

- Illegal wildlife trade may directly contribute to the decline of some species in the wild. It may also lead to damage and/or loss of important ecosystems and habitats.
- Such illegal wildlife trade may introduce harmful, alien species that could disrupt ecosystems and affect human, animal, and plant health, causing considerable economic and environmental damage.
- Illegal wildlife trade can also facilitate the entry and spread of animal borne diseases.

As the illegal trade in wildlife spirals upwards, its threats may not be limited to extinction of species and loss of habitats and ecosystems alone. The larger
social costs of such illegal activity are only now beginning to be understood and acknowledged.

In situations where the illegal wildlife trade continues, it has the potential to also undermine sustainable development and poverty alleviation objectives because it depletes the natural assets upon which rural communities depend for their livelihoods. (TOCTA East Asia Pacific, United Nations Office on Drugs and Crime UNODC-2013).

The trafficking in endangered species is a niche market attracting highly specialised organised Criminal Groups (OCGs). A perception of low risk and high profitability associated with this crime area is likely to continue to attract interest from OCGs (SOCTA EUROPOL 2013).

In early 2000s, the CITES Secretariat, in close collaboration with the UN Office on Drugs and Crime (UNODC) identified key indicators that clearly illustrated the involvement of organized crime in wildlife trafficking.

These include:
- Detailed planning
- Significant financial support
- Use or threat of violence
- International management of shipments
- Sophisticated forgery and alteration of permits and certifications
- Well-armed participants with the latest weapons
- Opportunity for massive profits

Illegal wildlife trade, till now generally considered a small, sporadic and often inconsequential form of crime has clearly turned the tide. In its present form, it is like any other mainstream criminal activity- well organised, well funded, ruthless and transnational. Poaching and the illicit trafficking of wildlife products are increasingly seen as severe threats to the rule of law, governance and economic development.
Given the very high profits from such illicit activities along with the relatively low probability of detection, poor conviction rates and low punishment received by those convicted, these crimes appear very attractive to professional, organized criminals. They find the wildlife trade “less risky” than other high-value black markets, including the drug trade, as while the penalties associated with wildlife crime tend to be substantially less severe, the profits could be comparable to other crimes.

Globally, such signs have been long recognised. Criminals engaged in illicit trade in tiger and bear products between the Russian Federation and China are known to have engaged with the Russian Mafia to have items smuggled across the border. It is believed that the Russian mafia controls a large part of the illegal trade in caviar.

A 2008 report of the US Congressional Research Service notes that wildlife, both legal and illegal, are also used as the means to conceal illegal drugs. It also acknowledges links of wildlife crime to other organised crime, while quoting numerous sources to indicate that organized criminal syndicates, insurgency groups, and military units are among the primary actors involved in large scale, commercial-sized wildlife trafficking.

Clearly, this aspect needs more information, analysis and study.