

3-31-2011

A Policy Gap Analysis of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Implementation in Nepal

Yogesh Dongol
ydong005@fiu.edu

DOI: 10.25148/etd.FI11050901

Follow this and additional works at: <http://digitalcommons.fiu.edu/etd>

Recommended Citation

Dongol, Yogesh, "A Policy Gap Analysis of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Implementation in Nepal" (2011). *FIU Electronic Theses and Dissertations*. 394.
<http://digitalcommons.fiu.edu/etd/394>

This work is brought to you for free and open access by the University Graduate School at FIU Digital Commons. It has been accepted for inclusion in FIU Electronic Theses and Dissertations by an authorized administrator of FIU Digital Commons. For more information, please contact dcc@fiu.edu.

FLORIDA INTERNATIONAL UNIVERSTIY

Miami, Florida

A POLICY GAP ANALYSIS OF CONVENTION ON INTERNATIONAL TRADE IN
ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES)
IMPLEMENTATION IN NEPAL

A thesis submitted in partial fulfillment of the
requirements for the degree of
MASTER OF SCIENCE
in
ENVIRONMENTAL STUDIES

by
Yogesh Dongol

2011

To: Dean Kenneth Furton
College of Arts and Sciences

This thesis, written by Yogesh Dongol, and entitled A Policy Gap Analysis of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Implementation in Nepal, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this thesis and recommend that it be approved.

Hong Liu

David B. Bray

Joel T. Heinen, Major Professor

Date of Defense: March 31, 2011

The thesis of Yogesh Dongol is approved.

Dean Kenneth Furton
College of Arts and Sciences

Interim Dean Kevin O'Shea
University Graduate School

Florida International University, 2011

DEDICATION

To my late mom

ACKNOWLEDGMENTS

I received constant support, guidance and motivation from many people throughout my academic career and during my research, which has encouraged me to do better. Especially, I am grateful to my major advisor, Dr. Joel T. Heinen for his constant support and guidance. Thank you for providing this great opportunity and believing in me. I am trying to learn from each word and each sentence that you have underscored or crossed in red and blue. I want to thank Dr. David Bray for his suggestions which have greatly helped me in qualitative data analysis. Thank you, Dr. Hong Liu for being so nice and supportive. Strong support and constant pushes and motivation from Dr. Pralad Yonzon before coming in FIU and during my research period in Nepal fueled me, and I thank him for that. Also I am grateful to Resources Himalaya Foundation for providing me office space during my research. I am grateful to Diwaker Chapagain, WWF-Nepal for his help. Also, I want to thank all resource persons from the Department of National Parks and Wildlife Conservation, the Natural History Museum, the Department of Forest, the Department of Plant Resources, the Nepal Army, the National Trust for Nature Conservation, Wildlife Conservation Nepal, The Kantipur Daily, The Himalayan Times, and the president of Jagatpur Buffer zone, Chitwan for sharing their views.

I want to thank the Earth and Environment Department and the Asian Studies Program Florida International University, for awarding research and travel grants.

ABSTRACT OF THE THESIS
A POLICY GAP ANALYSIS OF CONVENTION ON INTERNATIONAL TRADE IN
ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES)
IMPLEMENTATION IN NEPAL

by

Yogesh Dongol

Florida International University, 2011

Miami, Florida

Professor Joel T. Heinen, Major Professor

This study attempts to understand how domestic CITES policies are translated into action and what effect actions and processes have on compliance. In doing so, this study provides insight into the implementation and enforcement pitfalls of national legislation that explain CITES violations in Nepal. Primarily, I used key informants interviews to learn opinions of experts, and the grounded theory approach for further qualitative data analysis. In addition, I used Najman's (1995) policy implementation analysis framework to explain gaps. Many interrelated variables in the content of the policy, commitment and capacity of the agencies, the roles of clients and coalitions and contextual issues were observed. Variables that emerged suggest pitfalls in the regulatory policy represented by low probability of detection, arrest and punishment. Moreover, redistributive policies in buffer zones of protected areas are needed into perpetuity to benefit locals. Also, conservation organizations' support for building public and political salience is imperative.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION.....	1
Objectives.....	5
Research Questions.....	6
Nature of the Problem: CITES Violation in Nepal.....	6
Overview of CITES Implementing Policies.....	11
Multiple Actors of Policy Implementation.....	17
II. METHODOLOGY.....	18
Study Area.....	18
Methods.....	19
Analysis.....	24
III. RESULTS.....	25
The Content of the Policy.....	25
The Administrative Capacity of the Implementers.....	28
The Commitment of the Implementers.....	29
The support of Clients and Coalitions.....	33
The Nature of the Institutional Context.....	35
IV. DISCUSSION.....	37
V. CONCLUSION.....	48
LIST OF REFERENCES.....	51
APPENDICES.....	59

LIST OF FIGURES

FIGURES	PAGE
1. Najam’s 1995: The 5C Protocol	25
2. Frequency and number of the top five content issues	27
3. Frequency and number of the top five administrative capacity issues	29
4. Frequency and number of the top five Commitment issues	32
5. Frequency and number of the top five Clients and Coalition issues	33
6. Frequency and number of the top five contextual issues	37

I. Introduction

Protection of diverse wildlife and their natural habitats maintains ecosystem stability and resilience from disturbance (Loreau et al. 2001; Hooper et al. 2005; Ives et al. 2007). Existence of wildlife also provides intrinsic and instrumental values (Ehrlich and Ehrlich 1992). But human induced threats to wildlife are myriad and include climate change, habitat loss and degradation, invasion of exotic species, and overexploitation (McNelly et al. 2009; Sutherland et al. 2009; Rands et al. 2010; Butchart et al. 2010). Moreover, increasing human populations and economic growth, and subsequent over-exploitation of resources have altered wildlife habitats, and many species have decreased in numbers or have gone extinct (Rosser & Mainka 2002). Therefore, conservation efforts that consider rare and endangered species protection are essential because such species are inherently susceptible to stochastic threats associated with small population sizes (Shaffer 1981).

Unregulated international trade of wildlife and its derivatives is a typical example of over exploitation that causes direct threats to species survival. For instance, global trade of high value species is massive (Nijman 2009; McNelly et al. 2009); in particular, legal wildlife trade in 2005 was reported as \$300 billion US (Traffic 2008; Lewis 2009). And the international illegal wildlife trade was estimated to be in the tens of billions US \$ (Wyler and Sheikh 2008). Both have contributed to the extinction of species (Wasser et al. 2009). Generally, wildlife trade includes live animals and plants in the pet and horticulture trade, to wildlife meats used for foods, to traditional medicines. For example horn, pelts, bones, furs, and other body parts of wild animals such as rhinos (*Rhinoceros unicornis*), tigers (*Panthera tigris*), elephants (*Elephas maximus*) and others are traded in

international markets. Thus, unregulated legal and more often illegal wildlife trade and poaching are considered major threats that affect the survival of many species (McNelly et al. 2009; Nijman 2009). As wildlife trade transcends national borders, trans-boundary efforts and coordination to minimize, regulate and control such trade from overexploitation are needed (<http://www.cites.org>). In response, to address long term survival of wildlife from international legal and illegal trade, a multilateral environmental agreement, The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was developed in 1973 and came into force in 1975.

Multilateral environmental agreements, treaties and conventions are numerous and are pivotal to address cross border environmental issues (UNEP 2006). Such accords promote cooperative action between participating nations. In addition, accords foster environmentally sustainable behavior through binding or non-binding rules and regulations (Jacobson and Weiss 1998; Heinen and Chapagain 2002). Despite proliferation of international environmental accords (Faure and Lefevre 1999; UNEP 2006), national implementation of and compliance with these accords are seen as major drawbacks influencing overall effectiveness (Weiss and Jacobson 1998). These drawbacks are primarily because policy implementation is inherently a complex political process that involves multiple actors operating at multiple levels, each with their specific interests, goals and strategies (Najam 1995). Moreover, implementation depends on different factors such as social, cultural, political, and economic characteristics of party states (Jacobson and Weiss 1998). Given these conditions, possibilities for noncompliance are enormous, and as rules without compliance are meaningless,

enforcement measures are inevitable (Akella and Canno 2004; Keane et al. 2008). Enforcement of domestic legislation on the other hand is complicated because several factors play key roles in the implementation of decision making, such as the political environment, public opinion, public advocacy (NGOs and INGOs), political will, and economic issues in individual nations (Vogel and Kessler 1998; Victor 1998). CITES, a multilateral environmental agreement, however, has been considered the most successful conservation agreement on legal grounds (Ong 1998), despite voluminous reporting of ineffective implementation and compliance to regulate international wildlife trade (Reeve 2006). In particular, CITES violations in the form of illegal trade (both international and domestic) and discrepancies in reported levels of international wildlife trade in individual countries are large and growing (Blundell and Mascia 2005; Nijman 2009).

The CITES agreement primarily aims to control international trade of rare and endangered species and to support sustainable trade of listed species. It is thus both a conservation and trade agreement. This agreement includes three categories of protection (Appendix I, Appendix II, and Appendix III) that have listed more than 34,000 species of wild animals and plants (<http://www.cites.org/>). The CITES agreement is binding upon participating nations and requires individual parties to prepare and implement domestic CITES enabling legislation. Usually, wildlife trade is allowed through a permit system provided that trade is legal and allowed by CITES provisions. In Nepal, CITES protects 281 species of wildlife including 44 animals and 2 plants on Appendix I, 122 animals and 103 plants on Appendix II and 6 animals and 4 plants on Appendix III (<http://www.cites.org/>). To comply with CITES in Nepal, various but discrete laws are

functional (Heinen and Chapagain 2002; Aryal 2009). Furthermore, the Department of National Parks and Wildlife Conservation (DNPWC), Nepal's management authority for CITES, has begun anti-poaching task forces. Similarly, other management authorities, scientific authorities, and enforcement authorities have been established and are functional. In addition, several NGOs and epistemic communities are working in biodiversity conservation and some NGOs have begun to explore illegal wildlife trade. Despite different efforts to protect and conserve biodiversity, cases of poaching and trade that violates CITES are numerous and results are disappointing. In particular, the killing of rare and endangered wildlife such as rhino, tiger, snow leopard (*Panthera uncia*) and other wild animals is widespread and growing (Adhakari 2002; Martin 2004; Yonzon 2005; Baral and Heinen 2006; Bhujju et al. 2009). An earlier study reported lack of implementation and enforcement of existing legislation and absence of domestic CITES enabling legislation (Heinen and Chapagain 2002) as a cause of CITES violations in Nepal. But the factors that affect compliance change overtime (Jacobson and Weiss 1998). More specifically, because the political situation is evolving rapidly as Nepal has become a Republic and external markets for products have grown in Southeast and East Asia, especially China, the situation is quite fluid. Also widespread poaching and illegal trade have been reported within the region (McNelly et al. 2009; Nijman 2009). In addition, the open border with China and India, facilitating easy access to transit illegal wildlife products, is of major concern (Yonzon 2005; Bhujju et al. 2009).

Given the complexity of policy implementation in general (Najam 1995) and problems of CITES implementation in particular (Reeve 2006), my study attempts to understand how

domestic CITES policies are translated into action and what affect actions and processes have on compliance. In doing so, this study provides insights into the implementation and enforcement pitfalls of national legislation that explain CITES violations in Nepal. Specifically, this study examines extant government policies through key informant interviews and reviews of documents with the consideration of different factors that impede CITES implementation. For the study, I used the policy implementation analysis framework developed by Najam (1995). Particularly, this study focuses on the content of policy, the nature of the institutional context of implementation, the administrative capacity of implementers, the commitment of the implementers and the support of clients and coalitions of policy implementation. Rather than focusing on specific testable hypotheses, because of the complexity of topic and issues, this study is exploratory and generates general knowledge of the problems.

Objectives

The main purpose of the research is to contribute more knowledge about different factors that influence implementation and enforcement of CITES. My study attempts to describe the overall effectiveness of CITES as a conservation and trade tool. Essentially it is a policy gap assessment (Heinen 2010) in CITES implementation. The objectives are:

- To understand the policy content that guides CITES, including administrative capacity and the roles and responsibilities of the management and enforcement agencies within Nepal.

- To assess coordination between CITES implementing agencies within Nepal, and with neighboring nations because cooperation is vital to reduce covert activities and illegal trade.
- To understand the role of the contextual environment (political and socio-economic) that influences policy implementation.
- To understand the role of the political system, and national and local organizations with respect to CITES implementation in Nepal.

Research Questions

- What are the reasons behind the increase in CITES violations in Nepal?
- What are the major policy gaps that influence implementation and enforcement of CITES in Nepal?

Nature of the Problem: CITES Violation in Nepal

The CITES violations are enormous and increasing because of social, economic and political factors (Heinen and Chapagain 2002; Bhujju et al. 2009). For instance, Illegal trade and poaching of rare and endangered species such as rhino, tiger, common leopard (*Panthera pardus*), Asiatic black bear (*Ursus thibetanus*), otter (*Lutra lutra*; *Lutrogale perspicillata*; *Aonyx cinerea*), birds and red sandalwood (*Pterocarpus Santalinus*) is widespread in Nepal (Yonzon 2005; Aryal 2009). Three major examples of CITES violation are separately discussed below, particularly poaching and illegal trade of rhino, tiger and red sandalwood.

CITES Violation Case 1: Rhino Poaching and Illegal Trade

Historically the Indian rhinoceros was found in most of the South Asia, but now its range has contracted within Nepal and India with total population of 2575 (Talukdar et al. 2010). In Nepal, rhinoceros inhabit several southern protected areas bordering India. Currently, about 432 rhinos are distributed in three Nepali protected areas (Chitwan National Park, Bardia National Park and Suklaphanta Wildlife Reserve). One horn rhino was upgraded to Vulnerable in the IUCN red list in 2008 from Endangered, because of an increase in the population in India and Nepal (Milliken et al. 2009). But it is protected under Appendix I of CITES because of Chinese rhino horn markets. Rhino horns are particularly traded in China and demand is large and growing. Many people in the region believe that the horn has medicinal value.

The rhino population fluctuation for past few decades suggested wide-spread poaching and illegal trade in Nepal and within the region. The population in the 1950s was 800 in the Chitwan Valley alone, which decreased to 300 in 1959. In the late 1960s, rhino numbers had decreased to fewer than 100. Gee (1958) in Adhakari (2002) reported that about 72 and 60 rhinos were killed in 1954 and 1958 respectively. About 35 rhinos were poached between 1973 and 1991 and a further 28 more were killed in 1992. But with strong external support and functional anti-poaching units, fewer rhinos were killed from 1992 to 1999. In 1994 anti poaching units arrested 76 poachers which led to an increase in the rhino population to 612 in 2000 (Adhakari 2002). Beginning in 2000, poaching increased to such a degree that a total of 372 rhinos in three National Parks were estimated in 2005 (Martin and Martin 2006; Bhujju et al. 2009) which was primarily

because of lack of security (Oli 2005). During the same period more than 88 rhino poachers were arrested, without any reduction of poaching. Poachers killed 108 rhinos between 2001 to 2005 (Martin and Martin 2006). Even though Maoist insurgents came into the peace process after 2005, poachers killed 21 rhinos in 2006 taking opportunities of the volatile political situation. The year 2007 was relatively calm as only five rhinos were poached. As a result, the rhino surveys in 2008 claimed a total of 444 rhinos in three populations in Nepal (Milliken et al. 2009). Since then poachers have killed 36 more rhinos (DNPWC 2008; personal communication). Many argued that rhino poaching escalated because of socio-political unrest (insurgency) and disruption of law and order (Martin 2004; Oli 2005; Milliken et al. 2009). Some reported that livelihoods of local people, the geographic location of Nepal and the high commercial value of rhino horn (Ming et al. 2000; Yonzon 2005; Talukdar et al. 2010) were all factors in the increase in poaching.

CITES Violation Case 2: Tiger Poaching and Illegal Trade

Five subspecies of tiger inhabit thirteen different countries. The global population of all wild tigers is about 3200 (Chundawat et al. 2010a; Walston et al. 2010) and the Bengal tiger that inhabits India, Nepal, Bhutan, Bangladesh and western Myanmar is about 1,532 to 2,351 in number (Chundawat et al. 2010b). Tigers in Nepal are spread in three different populations in lowland protected areas. The 2008 tiger count estimated 241-304 tigers, which was a decrease from 360-370 total estimated in 2005. In the year 1999/2000, the total estimated tiger number was 340-350 (DNPWC 2007). Although tiger are listed as Endangered in the IUCN red list, protected under Appendix I of CITES,

and protected by the 1973 National Parks and Wildlife Conservation Act in Nepal, illegal trade is prevalent.

Primarily, tiger skins and bones are traded for medicine, clothing and decorations in Southeast and East Asia, especially in China. Earlier studies reported that tiger poaching from Nepal's protected areas is relatively low compare to the number of tiger products seized. This threatens tiger conservation in the wild because of Nepal's role as a transit for illegal wildlife trade and poaching in India for markets in China (Yonzon 2005). From 2004 to 2007, 26 persons were arrested on charges of tiger poaching with 25-29 tiger skins and 128.5 kg of bones confiscated (DNPWC 2007; Damania et al. 2008). Further, DNPWC has reported 19 more poachers were arrested from 7 different cities of Nepal. The majority of arrests were from Kathmandu, Chitwan (Central Nepal), Bardiya and Kanchanpur (Far-western Nepal). Total tiger bones confiscated from poachers and traders from 2004 to 2009 amounts to 167 kg (personal communication).

CITES Violation Case 3: Red Sandalwood Trade

Red sandalwood (*Pterocarpus santalinus*) is an aromatic tropical hardwood tree which is endemic to the southern part of India (<http://www.iucnredlist.org>, Zhou 2004). This species do not naturally occur in Nepal. Instead, Nepal is a main trade route for the species from India to China. This species is listed under the Appendix II of the CITES. Because of its aromatic, favorable coloration and high density wood, this species has been among the most priced wood for furniture since the Ming dynasty (1368—1644AD), and was reserved for Imperial use only during the Qing dynasty (1644-1911)

due to its rarity. Demand for the species remain high in modern China, and has been increasing since the economic boom started three decades ago. It also is used, to a lesser degree, as medicine. The high economic value has encouraged illegal trade on this species.

Illegal trade of red sandalwood provides a unique example of CITES violation in Nepal and in the region. Nepal, India and China are all party to CITES and are required to comply with its provision. The CITES provisions necessitate each participating country to have CITES export, re-export and import permits. Until 2063 BS (2006/2007), District Forest Offices in Kathmandu and Lalitpur had provided route permission to transport red sandalwood, and a study reported that 500-600 tons were traded (Mandal et al. 2008). The Kathmandu District Forest Office alone provided transportation permits for about 450 tons of red sandalwood within 15 months (July 2004 to October 2005). The Nepal Army for the first time seized 7.8 tons of sandalwood in February 2006. District forest records showed that 256 tons of red sandalwood have been seized from 15 different places of the country since then. Of which unclaimed red sandalwood is about 62.5 tons, and claimed is 193.3 tons. Theft from court premises was about 19 tons. Also 29 tons were repatriated to India. The remaining total after loss, theft and repatriation was about 208 tons. A total of 55 cases of illegal trade in red sandalwood has been documented by DFOs. In the latest reported case, traders tried to transport 32 kg of wood in August 2009. The data mentioned that people were illegally exchanging 8.081 tons of confiscated red sandalwood with utis (*Almus nepalensis*). Further, organized gangs took away 11.24 tons of red sandalwood from Lalitpur District Forest Office on November 2007. More

importantly, the UNEP-WCMC database documented legal trade of red sandalwood from Nepal to China is about 68 tons (<http://www.unep-wcmc.org/citestrade/trade.cfm>, April 4, 2011).

Overview of CITES Implementing Policies

In order to implement and comply with CITES, Nepal has adopted different legislative provisions. Although Nepal does not have specific CITES enabling legislation, existing laws prohibit any illegal taking, killing and trading of wildlife species. Some relevant laws that guide CITES implementation are: The National Parks and Wildlife Conservation Act, 1973, The Forest Act, 1993, The Export Import (Control) Act 1961, The Customs Act, 2007, The Police Act, 1995 and The Environmental Protection Act 1997. Regulations of all these acts are functional. Different plans and programs developed to curb illegal wildlife trade and poaching, and to promote conservation are: The Wildlife and Plants International Trade Control Act, 2010; the National Conservation Strategy for Nepal, 1988; the Nepal Environmental Policy and Action Plan, 1993; the Revised Forestry Sector Policy, 2000; the Nepal Biodiversity Strategy (NBS) and its Implementation Plan, 2002. The Species Action Plan for Greater One-horned Rhinoceros Conservation (2006-2011), the Tiger Conservation Action Plan (2007-2012); the South Asian Wildlife Enforcement Network (SA-WEN), 2007; and the Memorandum of Understanding with China and India have been signed to control trans-boundary illegal wildlife trade (Aryal 2009; Bhujju et al. 2009).

The Wildlife and Plants International Trade Control and Regulation Act, 2010

Domestic CITES enabling legislation called “The Rare (Endangered) Wildlife and Plants Trade Control Act, 2057” was drafted in 2002. Heinen and Chapagain (2002) claim that the 2002 draft CITES bill was robust enough to address many CITES violations. But the political instability following the Maoist insurgency and the lack of political priority largely withheld the CITES bill for a decade. However in May 2010, a new CITES bill was approved by the Nepali Cabinet which further needs endorsement from parliament to come into law. Surprisingly, the provisions in the current draft CITES bill are quite different than the bill drafted in 2002 (which never came into force).

Article 3 prohibits trade of endangered (CITES appendix I) species. Sub-section 2 of Article 3 allows any person or organization to farm or reproduce endangered animals and plants. Sub-section 3 allows trading of F-1 and subsequent generations of animals and plants after getting permission from the management authority. Article 6 and 7 discuss permission requirements from the management authority for transportation of CITES Appendix II and Appendix III species respectively, for education, scientific and/or business purpose. Articles 11 and 12 have punishments provision. Punishment for infractions involving protected animals include 3 - 7 yrs imprisonment and 500,000-1000,000 NRs (approx. \$ 7,000 -14,000 US) and, in case of illegal trade of endangered plants, punishment is 1 - 3 yrs imprisonment and 100,000-500,000 NRs (approx.\$ 1,390 - 6,950 US). Punishments for infractions involving transportation of endangered animals and plants against the law range from 1 to 3 yrs imprisonment and/or 100,000-500,000 NRs (approx. \$ 1400 -7,000 US), to 6 months to 3 yrs imprisonment and 10,000 to 50,000 NRs (approx. \$ 140 -700 US). Fines and jail term for involvement in trading

Appendix II and III animals and plants range from 3 months to 1 year and 10,000 to 50,000 NRs (approx. \$ 140 -700 US). Fines and jail terms for accomplices is half of that for offenders. Article 25 spells out the responsibilities of the CITES Coordination Committee which involves high ranking officers from different government agencies, but without representation from the army. Representative from NGOs have also not been included in the committee. Trust fund and reward provisions are included in Article 26 and 27 respectively. And Article 30 spells out the continuation of the 1973 National Parks and Wildlife Conservation Act and 1993 Forest Act.

The National Parks and Wildlife Conservation Act, 1973 (GoN 1973)

The goals of this act are to protect and manage wildlife and habitats throughout Nepal. The Government or a concerned agency can declare any area as a national park, wildlife reserve or conservation area and also may establish buffer zones outside such areas if necessary. This act prohibits entry inside national parks and wildlife reserves without permission from an authorized officer. Activities such as hunting, residing, collection of any product, harming and taking weapons, poisons are prohibited inside National Parks and Wildlife Reserves. Protected animals (Appendix 1) under this act cannot be hunted and hunting requires permits for other species. Permission is also required to collect any specimen for scientific purposes. The law also prohibits trade in trophies without license. Export and import of wildlife products require permits from the Ministry of Forests and Soil Conservation. This act provides authority to National park officers to inspect and search with or without warrant any person in suspicion of violation and allows for rewards of up to 50,000 NRs (approx. \$ 700 US) to any person who furnishes

information that leads to the arrest of a poacher, or one who has killed or injured rhinoceros, tiger, elephant, musk deer (*Moschus chrysogaster*), clouded leopard (*Neofelis nebulosa*), snow leopard, and gaur (*Bos gaurus*). Any person who illegally kills or injures, sells, purchases or transfers or obtains rhinoceros, tiger, elephant, musk deer, clouded leopard, snow leopard or gaur, or keeps, purchases or sells rhinoceros horn or musk-pods or fur of snow leopards as well as trophies of any other protected wildlife, shall be punished with a fine ranging from fifty to one hundred thousand NRs (approx. \$ 700 US to \$ 1400 US) and/or imprisonment ranging from five years to fifteen years. Detailed punishments are listed in the Act in case of harm to other animals. All investigations of offenses under this Act are conducted by a National Park Officer (Ranger or Subedar or Non-Gazette Class First) or by an employee at least with the rank of sub-inspector in the Police force. The Warden has the authority to hear and dispose of cases under this Act. An appeal may be filed before the Appellate Court against any decision within 35 days.

The Forest Act, 1993 and the Forest Regulation, 1995 (GoN 1995)

The goals of this act and its regulations are to conserve and manage forests and their resources. This act manages all forest categories within Nepal, which are: national forests, government managed forests, protected forests, community forest, leasehold forests, religious forests and private forests. The 1993 Forest Act provides jurisdiction of forest officers to implement wildlife laws outside of national parks, reserves and conservation areas. The Act prohibits activities such as the collection, removal, utilization, distribution and export of many important listed plants for the protection of

biodiversity (Appendix 2). The District Forest Officer (DFO) is the adjudicating authority who shall hear and dispose cases up to NRs 10,000 (approx. \$ 140 US), whereas the district court has the authority to oversee cases greater than NRs 10,000 (approx. \$ 140 US) with regard to forest products violations. Offenders are punished with fines equivalent to the product amount and/or imprisonment up to five years. The DFO is responsible for investigating poaching and sales of wildlife products and penalize offenders that fall within its jurisdiction. Rule 13 provides a regulatory mechanism to export, import and re-export various forest products. Traders, with applications in District Forest Offices, and subsequent permission (and recommendation to concerned custom officers) from forest officers, can export any forest product under the regulations.

The Customs Act, 2007 (GoN 2007)

Provisions in the Customs Act, 2007 and Customs Rules, 2007 require submitting a declaration of goods to be imported and exported. Any export or import of goods requires permit of transport from a custom office. In case of sending goods from one part of a foreign country to another part of that foreign country through Nepalese territory, the owner of goods shall submit an application. Also, a recommendation letter from the concerned embassy or diplomatic office is required before granting permission, followed by a declaration of goods and permit of transport. Export smuggling or import smuggling is considered if traded goods are different or inconsistent as declared, if the trader failed to submit a declaration or evidence of any goods which are subject to customs duty and if the trader uses other than the specified route of transport. Such failure to comply with the Act is subjected to punishment including jail terms and/or fines depending on the

quantity of traded goods. This Act provides power to customs employees to examine all exported and imported goods, to search persons or vehicles and to confiscate goods for laboratory examination. Customs employees are also provided the power to arrest, detain and release on bail anyone found to have committed any offense under the Act. Customs employees can exercise the same powers as courts for the purposes of this Act.

The Export and Import (Control) Act 1961 (GoN 1961)

The goal of this act is to prohibit or control export and import of goods, and to meet several objectives including protection of animals and plants, natural resources, and implementation of multilateral environmental conventions or bilateral agreements among others. This act provides the power to prohibit or control exports and imports and to frame rules to meet objectives. Punishment provisions under section 5 are for those who trade prohibited or restricted goods and include fines equal to the value of the goods and/or imprisonment not exceeding one year. Any person fabricating licenses or providing false information to obtain a license may be punished with a fine not exceeding two thousand rupees (approx. \$ 28 US). This Act also has a provision to reward any person giving information pertaining to exported or imported goods in contravention.

The Environmental Protection Act 1997 (GoN 1997)

The goal of this act is to protect and conserve the environment and natural resources. The Government of Nepal may maintain any natural heritage, rare wildlife, or biological diversity deemed important for environmental protection in designated areas. Activities such as sales, hunting, or harming wildlife are prohibited within such areas. No one is

allowed to research, collect or take any samples of any animal or plant without formal application and subsequent permission from the concerned agency.

Multiple Actors of Policy Implementation

Different agencies play critical roles implementing and enforcing domestic CITES policy in Nepal. Arguably, the roles and responsibilities of each stakeholder are on an ad hoc basis. Political parties and leaders particularly have a role in assisting conservation and management decisions based on extant government rules and regulations. To comply with CITES, the Department of National Parks and Wildlife Conservation is designated as the management authority for fauna and the Department of Forests is the management authority for flora. The 1973 National Parks and Wildlife Conservation Act and its regulations and the 1993 Forest Act and its regulations have provided roles, responsibilities and jurisdictions of each agency. In particular, the Warden and DFO are quasi-judicial bodies where they are required to investigate and give verdicts on violations. According to CITES, the management agency has the role to issue CITES permits and certificates. Also, management agencies manage programs and activities, and conduct regular meeting to achieve goals. The Department of Plant Resource is the scientific authority for flora in Nepal. Similarly, Nepal's Natural History Museum is the scientific authority for fauna. Essentially, scientific authorities have a role to identify species and products thereof if required. Scientific authorities also update the status of plants and animals. In particular, they are required to report on the status of species based on scientific information if sought by a management authority. To enforce the 1973 National Park and Wildlife Conservation Act, the Army forms the largest security force

in and around national parks and wildlife reserves. Their primary responsibility is to safeguard wildlife and habitats inside protected areas. About 6,778 army personnel are involved in the protection of 9,767 sq. km of 12 protected areas (<http://www.nepalarmy.mil.np/env-con.php>). In Chitwan National Park alone, more than 900 army are employed. Around 350-525 army personnel reside in 35 different posts scattered around the park. According to law, they have power to arrest anyone if found inside National Parks without permission and shoot if offenders try to escape. Similarly, the 1995 Police Act delegates police the power to curb illegal activities within the country. Furthermore, the Appellate Court and Supreme Court investigate and give verdicts in cases where anyone is not satisfied with the judgment of the Warden and District Forest Officer. Custom Officers primarily investigate and search products that are intended for export, import or re-export/import. Collaborating agencies such as international and national non-governmental organizations facilitate and support government agencies to achieve desired goals. They initiate programs and activities for protection and conservation of wildlife and also help promote participation of different stakeholders. Furthermore, local people and local organizations, user groups and committees are other grass root stakeholders that affect policy implementation or are affected by policy.

II. Methodology

Study Area

My study was conducted in Nepal with the focus on analysis of domestic policy implementation with respect to primary CITES goals and objectives. Nepal is

economically a least developed country (<http://www.worldbank.org.np>) and the majority of conservation funding depends on donor support (Heinen and Chapagian 2002). The recent decade long civil war and political transition from a monarchy to a democratic republic (post civil war phase) have greatly diminished social and economic progress. The current political situation has impacted all sectors including environmental and wildlife conservation efforts and processes (Oli 2005, Baral and Heinen 2006). Geographically, Nepal shares an open border with India in the South, East and West, and a more restricted but largely un-policed border with China in the North. Nepal is 147 181sq km in area and has 20 protected areas covering 23.23 % (including buffer zones) of the total land area (<http://www.dnpwc.gov.np/protected-areas.asp>). Nepal became party of CITES in 1975. Nepal has embraced protection of species and habitats in different IUCN categories of protected areas (national parks, conservation areas, wildlife reserves, etc.). Current conservation practices in Nepal are a mixture of both top down and bottom up approaches. In many protected areas, national army and park staff are deployed for strict protection of species and habitats inside core areas, where as local people and conservation organizations are involved in conservation and management of buffer zones outside protected areas, and of several large conservation areas in the northern part of the country. Several conservation policies and mechanisms are also in place to protect wildlife inside and outside of protected areas (Aryal 2009).

Methods

On the basis of Bernard's (2006) qualitative research method, I used face-to-face interviews with key informants representing government agencies, non-governmental

organizations, journalists and local people. Open ended semi structured questionnaires were used for interviews. In addition, I reviewed wildlife policies and enforcement records. I used the purposive sampling method for key respondent selection as it is flexible in allowing the inclusion of new respondents with the progress of interviews and with information gained from previous interviews (Bernard 2006). Essentially, key informant interviews are appropriate and effective when intricate problems need to be unraveled, and when in-depth information cannot be expected from representative survey respondents (Tremblay 1957). Kumar et al. (1989) claim that the method is useful to acquire descriptive information for further quantitative study and to give suggestions and recommendations. In addition, Bradburn et al. (2004) suggest that the method is particularly beneficial when information cannot be obtained accurately and economically by any other procedure.

Key Informants Selection

The selection process began with an identification of different management and collaboration agencies involved in CITES implementation and enforcement in Nepal. Agencies selected were; the Ministry of Forest and Soil Conservation, the Department of National Parks and Wildlife Conservation (DNPWC), the Ministry of Home Affairs (Nepal Police), the Ministry of Finance (Department of Customs), as well as international NGOs such as International Center for Integrated Mountain Development (ICIMOD), The World Conservation Union (IUCN) and World Wildlife Federation (WWF-Nepal) and national NGOs such as the National Trust for Nature Conservation (NTNC), Wildlife Conservation Nepal (WCN) and the Nepal Forum for Environmental Journalism

(NEFEJ). As adequate consideration of education, knowledge, responsible position and roles of the respondents is important in selecting key informants for interview (Kumar et al. 1989), I took suggestions and advice for selection of key informants from highly reputed wildlife conservation personnel in Nepal (Resources Himalaya Foundation and WWF-Nepal). In addition, I got inputs from my advisor for key informant selection as he is highly acquainted with wildlife conservation, and as he completed similar work in Nepal previously (e.g. Heinen et al. 1995; Heinen and Chapagain 2002). Following the selection process, key informants in government agencies (management, scientific and enforcement agencies) and collaborating agencies and institutions (national organizations, community organizations, and experts in the field) were contacted via telephone and email.

Key informants

Sixteen key respondents were interviewed from the above listed agencies and organizations; Government authority (50%, n=8), experts (12.5%, n=2), organizations (18.75%, n=3), reporters (12.5%, n=2) and locals (6.25%, n=1). Although multiple key respondents from each agency could strengthen the results, this study included less than the expected number of respondents because some respondents were reluctant to communicate on the topic and some had too little a role or were not closely related to the issue. Particularly, some respondents from the Ministry of Home Affairs (Nepal Police), and the Ministry of Finance (Department of Customs) showed an unwillingness to communicate despite several efforts. I interviewed the army head of Chitwan National Park about the issues and problems because of their role in wildlife protection and

curbing illegal activities inside national parks. A respondent from IUCN-Nepal was intentionally avoided after office visits because that organization does not have employee expert on CITES implementation. Although ICIMOD has large interest in and contribution to biodiversity conservation in Nepal, I did not take consideration of ICIMOD for interviews because their current role in CITES implementation and compliance is negligible. Instead, highly acclaimed environmental reporters from two national dailies (The Himalayan Times and Kantipur Daily) were interviewed because they have been reporting on wildlife trade issues for the last 10 years. Also I interviewed the buffer zone president from Jagatpur, Kashara (Chitwan National Park), because local people's views on the enforcement of wildlife laws at ground level are important for protection of wildlife in and around national parks.

Key informants interview

Before any interview, I began with an introduction and background, and research objectives. I assured respondents about anonymity and confidentiality of responses. Following that, key resource persons were asked to give their views on the broad topic of wildlife conservation and their role in biodiversity conservation in Nepal. The question was aimed at getting an idea about their priorities for conservation. Further, respondents were asked about the existing political and economic environment of the country with respect to CITES implementation. Later questions were more specific, especially on pitfalls of existing CITES policy, and on prevailing wildlife trade and growing CITES violations. Questions about current functions of government and collaborating agencies and the role of organized crime were also asked. As an inability to recall issues or a

tendency to digress from the main point is frequent in key informant interview, and this was prevalent during my research, respondents were occasionally reminded about major themes to get the interview back on track. As recording interviews is important for later analysis, I asked permission to record interviews on audiocassettes; 12 respondents gave permission.

Document Reviews

To understand obstacles and loopholes in wildlife protection from illegal and legal international trade, and to suggest effective implementation and compliance, I reviewed national policies and initiatives. My review was particularly focuses on the National Parks and Wildlife Conservation Act 1973, the Forest Act 1993, the Custom Act 2007 The Export and Import (Control) Act 1961, and the Environmental Protection Act, 1997. Also annual reports published by the DNPWC, the United Nations Environment Program-World Conservation Monitoring Centre (UNEP-WCMC) database from CITES websites, and media coverage of wildlife trade issues were reviewed. In addition, I gathered poachers' data obtained from district courts (from Chitwan National Park office) to understand enforcement issues. More specifically, the UNEP-WCMC database was used to detect probable discrepancies in reported legal trade. Media coverage of illegal wildlife trades was also reviewed from 2007 to 2010, particularly focusing on the EGH (Environmental Graduates in Himalaya) weekly publication from three national dailies (The Kantipur Daily, The Himalayan Times, Gorkhapatra Daily). Poaching data were mainly focused on rhino, tiger, and red sandalwood because parts of these animals and plants are highly traded in international markets. Although illegal trade of other species

such as Asiatic black bear, common leopard, musk deer, otter, orchids (many species), and yarshagumba (*Cordyceps sinensis*) have been reported (Aryal 2009), I did not take these into consideration for my study.

Analysis

All interviews were conducted in Nepali and were transcribed into English for further coding and analysis. I used the grounded theory approach for qualitative data analysis developed by Glaser and Strauss, 1976 in (Bernard 2006). On the basis of this approach, a list of information and comments emerged in an interviews were carefully analyzed sentence by sentences to discover subthemes. Primarily, I considered repetition of words and ideas, transitions, similarities and differences in each preceding and following sentence, and theory related materials to discover subthemes (Ryan and Bernard 2003). I used Ethnography version 6 qualitative data analysis software for coding qualitative information to facilitate analysis. Each meaningful sentence was coded to generate subthemes. Furthermore, I used Najam's (1995) model of 5Cs protocol of policy implementation conceptual framework for further categorization and analysis of inter-relation of different variables (subthemes) obtained from ethnographic software. The five Cs represent clusters of variables of policy implementation which were developed based on the meta-analysis (literature review) of policy formulation and implementation research. These Cs stands for content of the policy, the nature of the institutional context, commitment of multiple policy implementing agents, capacity of implementing agents, and support of clients/coalitions. Najam's model helps to explain and gives insight about potential sources of policy implementation gaps. Categories of themes provide broad

patterns or concrete information to help explain and understand issues (Ryan and Bernard 2003) which are otherwise scattered or isolated.

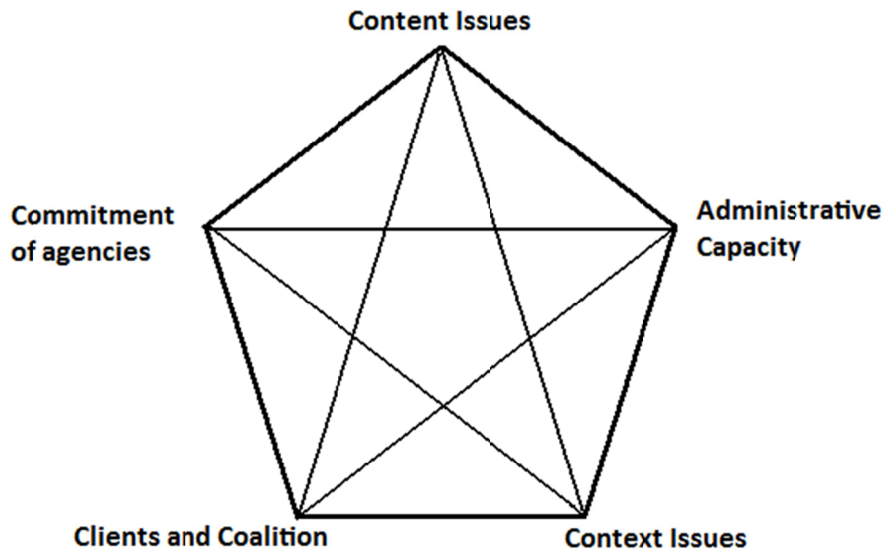


Figure 1. Najam’s 1995: The 5C Protocol

III. Results

Many subthemes were documented in key informant interviews. All subthemes were grouped into five major themes to find major inferences, and to explain the gaps in CITES policy implementation in Nepal.

The Content of the Policy

Questions regarding the major drawbacks in extant policies and subsequent qualitative analyses depict several content issues with varying degrees of frequency and priority. Absence of a single overriding domestic CITES enabling law was the major issue mentioned during interviews. The CITES implementing legislation “The Rare

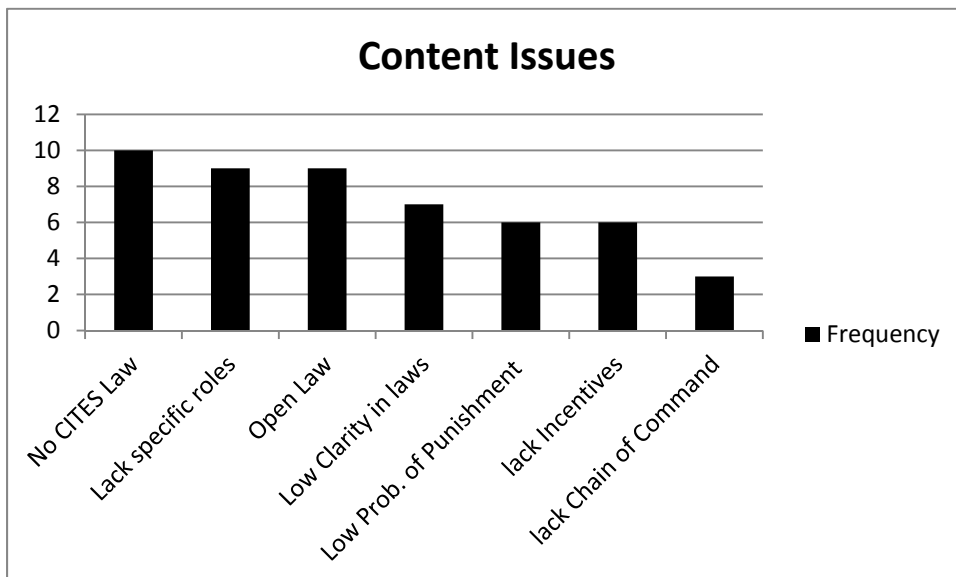
(Endangered) Wildlife and Plants Trade Control Act, 2057 (2002)” was drafted in 2002, but has been held up in the Cabinet since then. The majority of key respondents mentioned that extant laws, especially the 1973 National Parks and Wildlife Conservation Act and the 1993 Forest Act, lack specific roles and responsibilities of CITES implementing agencies. Some respondents claimed that a clear chain of command is needed in law to regulate the roles of army and police. In addition, almost 60% stated that punishment provisions (NRs. 50,000 to 100,000 (approx. \$ 700 US to \$ 1400 US) and/or 5-15 years imprisonment) in the 1973 National Parks and Wildlife Conservation Act have drawbacks. They argued that such open provisions have provided adequate space for personal discretion and engendered inconsistency in judgment. Respondents stated that the penalty is unjust and lopsided; most convicted and prosecuted front line poachers are poor and middle men are rarely caught. In fact, some believe that punishment through existing legislation is negligible. They claimed that the lower risk of punishment has encouraged people to get involved in poaching and illegal wildlife trade. Furthermore, they mentioned that a fixed penalty needs to be reviewed because the 1973 National Parks and Wildlife Conservation Act consider notorious poachers and traders as equal to first time offenders. For example, an infamous illegal wildlife trader “Yakche” confessed that he was involved in more than 20 rhino horns traded, but he just got 5 years imprisonment and fines. Some also cited that the legislation lacks a performance appraisal system. In particular, they believed that rewards, incentives, and punishment with respect to wildlife conservation are essential to reduce the current discrepancy in judgments. Moreover, a few resource personnel suggested that update of species on the protected list, clarity in definition, and adequate time provisions for investigation are

needed to solve some of the basic problems in implementing the Act. In particular, they mentioned the urgent need to include clouded leopard on the protected list because of high rate of killing for illegal trade.

Respondent- Expert: *“The Army does not listen to the management agency, which is why the chain of command should be clear and inscribed in law”*.

Respondent- Government officer: *“Stringency of punishment varies according to judges because of the open provision in existing law. The open law has provided opportunity for corruption and personal discretion primarily to favor high profile illegal traders and poachers”*.

Figure 2: Frequency and number of the top five content issues.

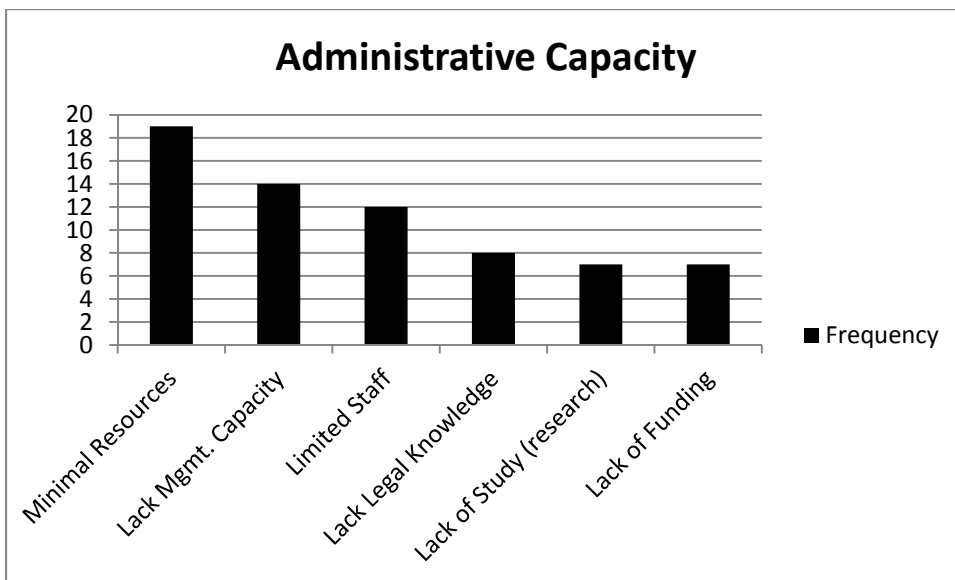


The Administrative Capacity of the Implementers

One of the highly prioritized pitfalls is the lack of resources in implementing agencies. Almost 75% of respondents claimed that limited staff in management and enforcement is a deterrent to implementation. Furthermore, nearly 50 % said that funding is too little to carry out administrative and enforcement activities. All respondents believed that agencies lack capacity to implement and enforce legislation, and to curb poaching and illegal wildlife trade. Almost 90% cited that the DNPWC and the DOF lack administrative and management capacity and also lack knowledge. In particular, half of the respondents claimed that national park wardens and the district forest officers do not have sufficient legal knowledge or background to prosecute offenders in favor of wildlife protection. In addition, some mentioned that management agencies are highly dependent on NGOs and lack leadership. The Department of Forests especially lacks leadership in implementing CITES. Almost half of the respondents were aware of the non functional role of scientific authorities. They claimed that the diminished role might be because of lack of funding, under staffing and lack of knowledge. Some inferred that lack of resources constrains scientific authorities from updating, listing and researching wild animals and plants. In addition some resource persons claimed that field level police and customs staff lack awareness and knowledge about the importance of wildlife and cannot identify wildlife products. In response many suggested adequate training and sensitization programs are necessary each year, or that such programs should be the part of their curriculum. Almost 40 % believed that inefficiency and ineffectiveness of the Army might be because of a lack of incentive to perform better. Some also said that lack of incentive in other security staff including army, police and national park staff might

have discouraged patrolling. Although the 1973 National Parks and Wildlife Conservation Act has reward provisions, respondents said that none of the staff to date has received a reward. Some respondents mentioned that the enforcement of law is difficult because the DNPWC and DoF have no role in incentivizing army and police for their work.

Figure 3: Frequency and number of the top five administrative capacity issues.



The Commitment of the Implementers

The third prioritized variable was the lack of commitment to protect wildlife from poaching and illegal trade. The majority of respondents mentioned that the army should be accountable. They specifically stated that the army needs to take responsibility of rhino poaching inside national parks. Furthermore, some claimed that the army showed indifference even when rhino were killed 100 m from their post, and they usually do not follow management authority directives. Field level staff shirk patrolling when no one is

there to monitor their activities. Almost 2/3 of the respondents also claimed that the enforcement personnel including Army, Police and Judges have never considered wildlife crime as serious, and such crime has never been their priority. In response, they suggested that an enforcement network and clear chain of command are needed. Many argued that enforcement personnel, particularly wardens, DFOs and appellate court judges, lack professional ethics or good moral behavior because their decisions are inconsistent and biased toward high profile wildlife poachers and traders. The biased punishment has encouraged killing and trading because of low risk of punishment in all other cases. All respondents expressed that corruption in judicial agencies is the primary factor that impedes effective implementation of the legislation. They mentioned that major implementers involved in corruption are Wardens, DFOs and Judges of Appellate and Supreme Courts. Likewise, some claimed that district forest officers, police and army showed an unwillingness to curb illegal red sandalwood trade primarily because of corruption, political influence and lack of professional ethics. The police, army and custom officers were heavily involved in abetting red sandalwood trade. Furthermore, many claimed that the political will and priority to protect and conserve wildlife is negligible. The most obvious example of low political will is the decade old draft CITES implementation bill still in bureaucratic processes. Some also cited that some agencies shirk their responsibilities completely in this area and lack ownership of the issue.

One of the overriding drawbacks that prompts poaching and illegal trade according to all respondents is the lack of security measures in and around national parks. The army is primarily responsible to protect wildlife inside national parks and wildlife reserves. The majority of resource personnel claimed that the army do not adequately patrol potential

poaching areas. Some argued that the numbers of guard posts are inadequate and the number of security personal in each post is too little for patrol. Some commented that foot patrol is important and in reality it is very minimal. Some respondents cited that anyone can enter national parks without any deterrent (easy access) mainly because of lack of security. Further, respondents claimed that there are few instances in which the army has ever caught poachers inside national parks, instead they mentioned that both army and police personnel have been caught poaching. Several reported that lack of ownership of the problem and lack of resources might be one of the reasons for rise in poaching..

Respondent - Expert: *“The current rate of poaching is because of lower security measures and lack of responsibility in enforcement, particularly in the army which suggests that we should look for alternative security measures”*

Respondent- government officer: *“If Wildlife Conservation Nepal can get information and arrest illegal traders with the help of few police and ex-police personnel, why hasn't the whole police administration had success, I think it is largely because of lack of priority and commitment”.*

Respondent- government officer: *“Despite 70% of the total wildlife budget going to army, we have not seen any responsibility, accountability and seriousness in the army, which is very frustrating”*

Figure 4: Frequency and number of the top five Commitment issues

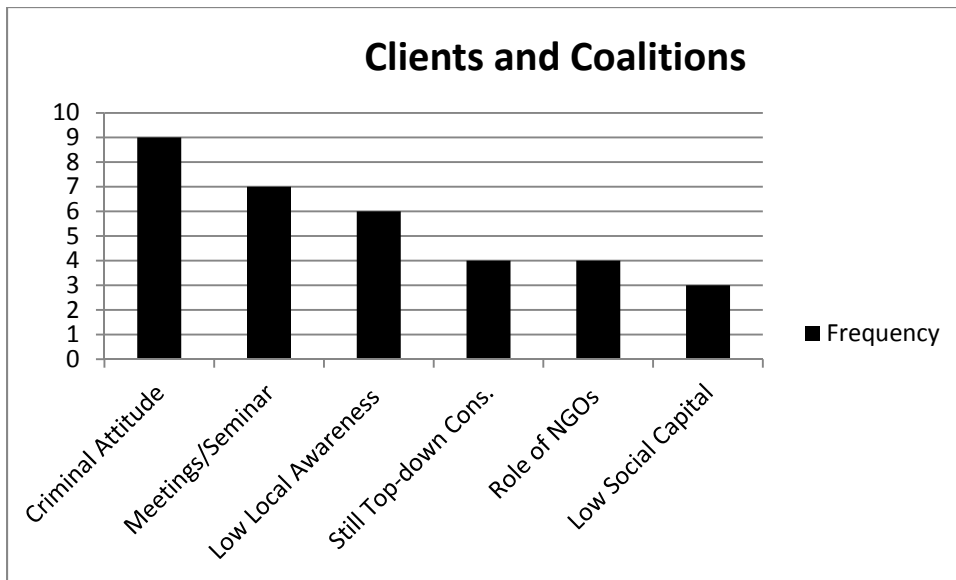


Almost all respondents opined that lack of coordination, communication and cooperation between agencies are main reasons that have hindered CITES implementation in Nepal. The lack of concerted effort was the third most important among all prioritized implementation gaps. Meetings between and within agencies (scientific, enforcement and collaborating agencies) are rare. Respondents including the army chief also mentioned that they do not share information and intelligence because they do not trust other agencies. Information and knowledge sharing between DNPWC and enforcement agencies such as army, police and custom is virtually negligible. Many mentioned that custom officers do not participate in meetings. Moreover communication between stakeholders including NGOs and locals is minimum. In addition, many said that current trans-boundary meetings are infrequent. Although there are meetings, seminars and understanding of the need for information sharing and a joint task force to implement and enforce rules to curb illegal trade exists, continuity is lacking.

The support of Clients and Coalitions

Some respondents claimed that the role of NGOs is ineffective. Particularly, they mentioned that NGOs are primarily money making institutions, and they focus on meetings and seminars with little benefits for wildlife protection from international trade. Additionally, about 30% were concerned about Wildlife Conservation Nepal's (WNC; a national conservation NGO) role as an enforcement agency without transparency or information sharing, and against national law. A few also claimed that NGOs seriously lack field knowledge and do not have long term visions about protecting wildlife from illegal trade and poaching. Some also mentioned that NGOs and government agencies were unable to make conservation a priority in the political domain.

Figure 5: Frequency and number of the top five Clients and Coalition issues



Because of the drawbacks in environmental organizations and management agencies, a few respondents inferred that buffer zone initiatives which were begun for conservation

and development have not adequately addressed the key stakeholders' needs and aspirations. The respondents opined that benefits from incentive based conservation are lopsided to a few particular groups, leaders and/or communities. A majority mentioned that the lack of coalition between locals and street level bureaucrats especially has hindered the implementation processes. In particular, respondents mentioned that the key stakeholders lack opportunity or capacity, which has reduced participation and subsequently reduced trust between implementers and locals. Although many buffer zone committees and users groups were formed to encourage participation and to build favorable relationships between implementers and target groups, some claimed that social capital, and especially the relationship between locals, army and park staff, is deteriorating. For instance, the news media and some respondents mentioned that army killed 3 local suspected of poaching in Bardiya National Park on March 2010. Following the incident, local people, national media, and national and international human rights organizations protested the crime as a serious human rights violation by the army. Respondents said that the current conservation approach still is top down, which is highly regulatory and frequently disregards locals. In particular, a few respondents mentioned that the current system lacks participatory CITES implementing units. They emphasized that all actors such as local leaders, user groups and community based organizations (CBOs) should be included in the design and implementation of policy. Some expressed that strong participatory networks should be built between locals, users group, user committees and CBOs against poaching and illegal trade. A few also emphasized that the contribution of epistemic communities is very rare in providing the needed guidance and in generating resources to curb illegal wildlife trade. However many considered the

recent meeting of the South Asian Experts Group on Illegal Wildlife Trade to support South Asian Wildlife Enforcement Network (SA-WEN) as a positive effort. Besides, some respondents cited that print and broadcast media have played major roles in enhancing the importance of wildlife conservation and also highlighting issues concerning illegal activities by politicians, army, police, customs and judges. In particular, some praised the media's role in reducing red sandalwood trade and bringing attention to rhino poaching.

The Nature of the Institutional Context

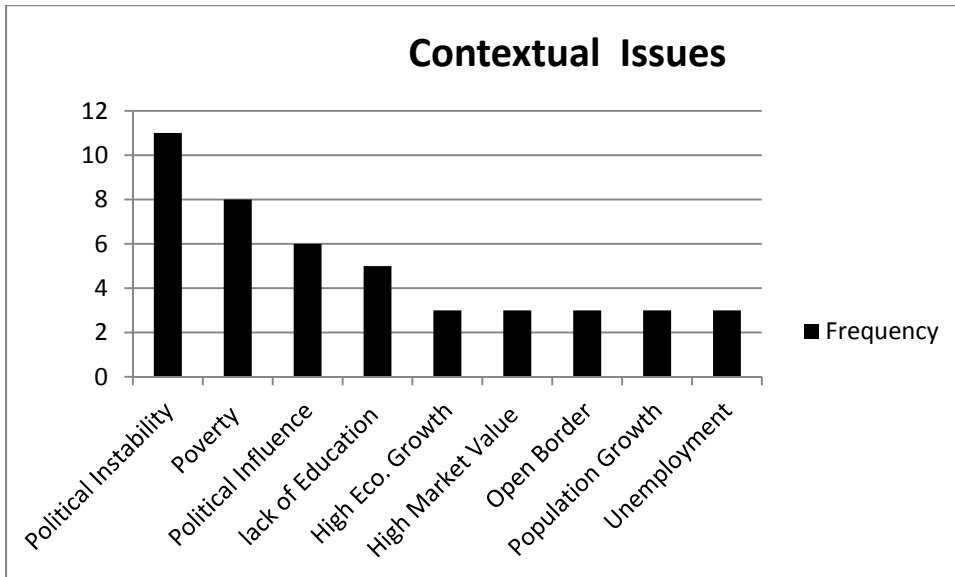
Most respondents agreed that the current political environment in Nepal is a major factor influencing implementation and enforcement of laws and rules. The political transition through the Maoist insurgency has affected all aspects of bureaucracy and judicial decision making. For instance, some mentioned that frequent staff turnover in government agencies has led to great inefficiencies and has demoralized staff. Furthermore, government staff are frequently affiliated with a political party which can make it difficult to take action against some transgressions. Some respondents said that political instability in the current system has encouraged corruption of judges, police and customs. In addition, newspapers and a few respondents have mentioned that more than 100 poachers were freed or given amnesty during the political transition period. In some cases, high level illegal wildlife traders were protected by political leaders.

Many social factors were reported as a deterrent for effective protection of wildlife. Primarily, almost half of the respondents stated that poaching and illegal trade depends

on people's criminal attitudes rather than on poverty and the lack of awareness. However about 50% of respondents did not rule out poverty and lower awareness of local people as a cause of current infractions of law. Furthermore, some believed that education of locals is an important social factor to ensure long term survival of animals and plants in the wild. Some others reported that population growth in buffer zone villages, and unemployment within them, lead to more poaching. Social problems such as rape and murder cases within national parks, and homelessness of children due to the jailing of parents have caused a deterioration in the relationship between locals and field level implementing agencies. Some respondents claimed that external factors such as growing markets in East and Southeast Asia, especially in China, have fueled poaching and illegal trade. Wildlife products (rhino horn, tiger parts and red sandalwood) from Nepal and India are primarily transported to China for traditional medicine. In addition, some mentioned that high economic value to wildlife poachers and huge economic returns for traders are reasons of unabated international illegal wildlife trade. Moreover, the geographic setting of Nepal (porous borders with India and China) was cited as a reason of growing illicit trade. All respondents cited that organized crime is prevalent and it has encouraged poaching and illegal trade. Organized crime was the fourth prioritized variable among all the issues mentioned by respondents. Respondents suggested that there are three different tiers of people involved in illegal wildlife trade: local poor people as front line poachers and accomplices, middle men and high profile traders from urban areas. They mentioned that most often local poachers and accomplices are caught and punished, but the majority of middle men and high profile traders avoid punishment. The majority reported that high profile traders have political and bureaucratic connections

such as with local leaders, judges, army, and police. In particular, some also claimed that some politicians, army and police were involved in red sandalwood trade.

Figure 6: Frequency and number of the top five contextual issues



IV. Discussion

The statement that the lack of domestic enabling legislation is a primary cause of growing CITES violation in Nepal (Heinen and Chapagain 2002; Aryal 2009; Bhujju et al. 2009) is partly correct. Numerous other complicating issues were observed that have also influenced CITES implementation processes in Nepal. Domestic legislation, however, is imperative because it includes specific goals and objectives and has clear and explicit methods required for effective policy implementation (Sabatier 1986). Respondents claimed that extant legislation can adequately address poaching and illegal trade provided that its implementation and enforcement is effective. My study clearly indicates that two laws, namely the 1973 National Parks and Wildlife Conservation Act and the 1993 Forest

Act primarily play critical roles in implementing CITES in Nepal. Other Acts described above, however, are not less important to achieve CITES goals because they indirectly help to enforce it. For example, the 1955 Police Act provides authority to police officers to control all illegal activities, including illegal wildlife trade, within Nepal.

The framework used for analysis is comprehensive as it has recognized top-down and bottom-up factors that affect policy implementation. Moreover, it is more flexible in its approach to analyze implementation. All variables that were observed are categorized into five broad categories that interact with each other to explain implementation and enforcement gaps of the domestic regulatory policy. In fact, these gaps suggest flaws in performance of the enforcement chain at various levels of government, and flaws in incentives based policies.

Enforcement and monitoring of rules is critical when non-compliance thrives (Vogel and Kessler 1998). More importantly, the probability of detection and arrest, and the probability of punishment (prosecution and conviction) play important roles in implementation and enforcement of rules (Akella and Canno 2004; Leader-Williams and Milner-Gulland 1993), and eventually help to decrease the frequency of offences (Becker 1968; Dobson and Lynes 2008). But the results suggest that the probability of detection of offenses and punishment if arrested is minimal through existing mechanisms. Respondents cited gaps in the content of the policies, lack of administrative capacity in the implementing agencies, negligible commitment of implementers and the influence of

the socio-economic and political context to explain the low probability of detection and punishment, and increasing violations of CITES.

Anti-poaching efforts such as frequency and intensity of patrols and informant networks determine probability of detection (Hilborn et al. 2006). Many studies on elephant and rhino poaching in Africa have reported that frequency and efficiency of vehicle and foot patrols remarkably reduced poaching and illegal trade (Leader-Williams and Milner-Gulland 1993; Hilborn et al. 2006). Further, Adhakari (2002) reported robust informant networks in Nepal have helped to reduce rhino poaching. Back then, the informant's network was large with collaboration between DNPWC, DoF, local people and occasional armed support from Nepal Army, and the chain of command was clear. According to the 1973 National Parks and Wildlife Conservation Act, army personnel and park staff are entrusted to protect wildlife in and around national parks. Likewise, the Department of Forests (DoF) has a role in protecting wildlife outside protected areas per the 1993 Forest Act. But current anti-poaching efforts, particularly patrols inside national parks, are sorely lacking, and informants' networks outside national parks are now minimal (Poudyal et al. 2005; Bhujju et al. 2009). Mainly, the army and national park staff shirk patrolling, and existing security posts are inadequate (Baral and Heinen 2006; Bhujju et al. 2009). In addition, numerous other factors lower detection, such as the absence of clear specific rules and responsibilities and hierarchies of implementing agencies (Pressman and Wildavsky 1973; Sabatier 1986) in extant legislation. Najam (1995) argues that a clear chain of command is important when multi agency and multilayered working groups are involved, because specific roles and clear chains of

command delegate power to management agencies to provide clear directives to subordinate agencies, and also help to build support among agencies (Traffic North America 2009). Many times enforcement agencies disregard conservation agencies because they lack political weight. Likewise, Heinen and Chapagain (2002) reported jurisdictional confusion between the DNPWC and the DoF because of lack of clarity in current law, which might lower the detection rate of violations (Akella and Canno 2004). Lower accountability or responsibility of staff also influences detection probability (Leader-Williams and Milner-Gulland 1993; Najam 1995). In Nepal, the lack of accountability of government staff was categorically claimed as a major deterrent to effective CITES implementation. Willingness to carry out the specified job is critical for effective implementation of legislation, and this, in fact, is minimal in the army. Protecting wildlife has never been a high priority of higher level Army staff. According to the Resources Himalaya Watchdog newsletter, over 30 Nepal army soldiers are arrested every year for involvement in poaching or smuggling wildlife (Dangol and Paudyal 2008). More recently, the chief warden of Bardiya National Park claimed that out of 76 people arrested for poaching and illegal trade for bush meat, 50% were police and 25% were army personnel (Ghimire and Bhatta 2010). Other than hindering the detection probability, a low commitment on the part of the Army and Police increases corruption and bribery, and reduces information sharing and coordinated efforts. The low commitment of enforcement personnel may be because of lack of a performance appraisal system in current law. Likewise, limited staff and budget shortage in the army and the national park department might have influenced anti-poaching efforts in and around national parks. Many studies report that availability of adequate budgets for

monitoring in general increases species protection in protected areas (Hilborn et al. 2006; Walker 2009). Earlier studies in Nepal have also suggested that low staff numbers and lack of funding in enforcement agencies increases poaching and illegal trade (Heinen and Chapagain 2002; Aryal 2009; Bhujju et al. 2009).

The probability of arrest of potential violators and offenders was meager, as suggested by low degrees of patrolling and minimal informant networks. Factors such as capacity and commitment of enforcement agencies and public support also play key roles. However the low arrest rate for illegal trade of red sandalwood was particularly related to lower commitments of enforcement agencies caused largely by corruption in management and enforcement personnel. Many national newspapers have reported incidents of involvement of traders, enforcement personnel (Army, Police, and Custom) and political leaders in illegal red sandalwood trade.

Increased probability of punishment - that is prosecution and conviction - and subsequent reduction in offenses primarily depends on penalties inscribed in legislation (Keane et al. 2008). Although two existing laws have stringent punishment including fines and/or prison sentences, such provisions have had minimal impacts on restricting violations of CITES. Results suggest several implementation gaps. The personal discretion of judges because of the open penalty provisions in law is a major issue that decreases the likelihood of punishment. The open provision has prompted unfair judgments and high levels of corruption in the judicial system. Akella and Canno (2004) claim that unjust enforcement reduces compliance, engenders corruption and also demoralizes well

intentioned enforcement staff. Furthermore, fixed penalties in the 1973 National Park and Wildlife Conservation Act have encouraged offences because benefits from illegal trade often exceed costs of offenses (Akella and Canno 2004). Working in Zambia, Milner-Gulland and Leadder-Williams (1992) reported that penalties that vary with the degree of violation are more effective. In addition, a performance appraisal system is lacking or non functional in extant legislation, which might be a reason that has engendered high inconsistency in prosecution. Also, lack of legal knowledge among wardens and district forest officers may have the effect of reducing punishment because prosecution and conviction depend on backgrounds in the court proceedings.

For instance, poacher data (April 2008-April 2009) from Chitwan National Park depicts the low probability of punishment. According to the data, out of 87 total convicted offenders, especially in rhino and tiger cases, 35 % were not currently in custody. Earlier research also mentioned that nearly 60% of poachers escaped punishment (Bhujju et al. 2009). In addition, many high profile illegal traders were less punished than local accomplices. For instance, the most infamous illegal trader “Yakche” got a short jail sentence even though he confessed and was convicted of involvement in more than 20 rhino horns trade. The jail term of a notorious middle man “Gokul Pant”, was reduced from an appellate court decision. Given the release of both the high profile trader and the middle man, and no dearth of locals willing to participate in poaching, and a favorable political environment, more killings of rhino and tiger are expected.

In addition, enforcement of rules also depends on communication, coordination and cooperation between agency personnel, prosecutors, and judges (Akella and Canno 2004) and between NGOs. In Nepal, information and intelligence sharing is too little and coordination meetings are too infrequent. Heinen and Chapagain (2002) suggested that the frequency of coordination meetings between agencies should be inscribed into law for better enforcement results. In particular, communication, coordination and cooperation increase trust, which is important for maintaining efforts. More importantly, sharing of information decreases judicial confusion, increases procedural efficiency among agencies, and helps to build strong cases against offenders (Akella and Canno 2004). As multi enforcement agency personnel are involved, communication and coordination are critical for effective implementation. Constant communication and concerted efforts between the international community, and a higher political priority for conservation could also help in enforcement by generating funding and capacity building. Moreover, international meetings and MOUs exist among Nepal, India and China, but continuity of the activities is lacking which leads to lower trans-boundary cooperation.

Although effective implementation of domestic policy depends on the political environment including public support, preference of politicians, and the role of NGOs (Vogel and Kessler 1998), influences of political environment was not highly prioritized compared to enforcement issues by key informants. However, considerable numbers of respondents mentioned the importance of the political environment to explain growing levels of illegal international trade and poaching. Particularly, local awareness and educational opportunities, employment, and economic benefits to locals increases

favorable conservation attitudes required for effectiveness of community based conservation programs (Mehta and Heinen 2001) and can help to reduce poaching activities (Lewis et al. 1990). In addition, sound conservation attitudes are imperative to build public participation and coalitions for better conservation (Wells and Brandon 1993). Specifically, participation and collective action increase communication and build trust to manage common benefits from wildlife resources and subsequently reinforce social capital (Pretty 2003). Pretty and Smith (2004) argue that social capital components such as relationships of trust, reciprocity and exchange, common rule, norms and sanctions, and connectedness of groups are important to shape individual and group behaviors for positive biodiversity outcomes. But the lack of above mentioned benefits that were reported during interviews infer poorer conservation attitudes of stakeholders, which may describe one cause of the increase in rhino poaching (Martin and Martin 2006). Moreover, current conservation policies in buffer zones of protected areas, which were heralded to bring more favorable conservation attitudes, are still top-down and such is represented by low social capital and lack of ownership among people. Unfavorable conservation attitudes that arise because of negligible benefits from community based conservation (Bookbinder et al. 1998; Wells and McShane 2004) may lower information and intelligence sharing about potential violators, and may reduce local participation in meetings and workshops or support in conservation initiatives. Vogel and Kessler (1998) mentioned that the lack of public support in India, Japan and Italy affected each government's ability to comply with CITES.

Despite significant contributions of different national and international conservation organizations, respondents have cited some drawback in the working modality of organizations with regard to growing CITES implementation in Nepal. Essentially, NGOs have a role to play in building public and political salience and support through advocacy and dissemination of information (Kraft and Vig 2009), generating funding for capacity development, supporting research, and functioning as watchdogs for conservation and protection of wildlife (Vogel and Kessler 1998). But undertaking of such roles by organizations is minimal in Nepal. Instead, conflict between NGOs, management agencies and enforcement agencies is prevalent. Good relationships between and within organizations and agencies are needed. The lack of concerted efforts and among NGOs and agencies has led to the decade long hold up of CITES bill (The (Endangered) Wildlife and Plant Trade Control Act, 2002. Some NGOs have played a role in arresting poachers, but many key informants were concerned about that work because of minimal information sharing and lack of transparency.

The major contextual issue that influences implementation of policy is the political situation of a country and preference of elected politicians (Vogel and Kessler 1998). In Nepal, according to the respondents, CITES implementation has been impacted by political instability of the country, lack of politicians' priority of wildlife issues, low willingness of politicians to protect wildlife, political influence in bureaucratic and judicial decisions, and the changes in the political system. Extreme political instability is prevalent in Nepal because of its recently ended civil war. The above situation suggests diminished enforcement of laws and regulations and reduced security decreased the

capacity of implementing agencies because of lack of resources, bad governance, and less support among target groups. Political instability and long transition periods particularly engenders weak judicial efficiency and political patronage that promotes corruption and non-compliance of rules and regulations (Damania et al. 2004). In particular, Martin et al. (2009) opines that the massive rhino poaching after 2000 was because of political upheaval and disruption of law and order. Enforcement of law and order in politically unstable conditions is disrupted because of shifting priorities of enforcement agencies. For instance, In Nepal, during the insurgency, national park army guards were reduced by 70%, from 112 posts to 34 posts (Baral and Heinen 2006). In Chitwan National Park alone, 25 out of 32 army posts were withdrawn, which largely influenced park security leading to a large amount of rhinos poaching (Adhakari 2002).

In states of war, there are many possibilities of non-compliance: forged permits, misuse of stolen permits and even genuine permit, which have been used to cover shipments of illegally acquired or traded specimens (Fuller et al. 2009). Furthermore, external resources in support of conservation decrease (funding, technical trainings, meetings) as many donors withdraw their activities for security reasons (Vogel and Kessler 1998, Hamilton et al. 2000). Political unrest also decreases the sources of income in the country because of reduced economic activities; such as decreases in tourism, lower agricultural productivity, and fewer development activities. Besides lack of monitoring and laxity in punishment, political instability encourages trans-boundary involvement of illegal traders as was evident in Nepal. Taking advantage of the situation, traders had used Nepal as a transit route for illegal wildlife trade with China and India (Yonzon 2005) and this still

exists. On top of that, the civil war affected trans-boundary efforts to curb illegal wildlife trade, as coordination, cooperation and communication between countries (Nepal, India and China) decreased (Oli 2005; Baral and Heinen 2006).

The increase in CITES violations can also be predicted because of the high economic value and growing markets for wildlife products including parts of rhinos, tigers and red sandalwood. As the benefit is extremely high, organized gangs have used the porous borders to trade illegal wildlife products. In particular, Ming et al. (2000) reported that about 10% of wild animal products used in Tibetan and Chinese tradition medicine come from Nepal and India, suggesting huge illegal trade in the region. Traffic (2007) published that Chinese consumption of protected species is increasing and further reported that Chinese medicinal trade in many part of the world is growing at an annual rate of 10 percent. A survey in southern Chinese markets reveled that about half of the restaurants sold wild animal products. Of 56 species for sale, 17 were protected under CITES (Traffic 2009). Surprisingly, consumers are diverse and Chinese traditional medicine is hugely profitable business in Asia, Europe and North America (Ming et al. 2000; Traffic 2007). More importantly, the purchasing power of Chinese people is growing which bodes badly for important endangered wild animals, particularly tiger and rhinos. Wild tiger poaching can be expected to continue and increase for two main reasons. First, Chinese people prefer wild tiger products over farmed tiger products because of supposedly better analgesic effects. Secondly, farming tiger is 250 times more expensive comparing to poaching in India and Nepal (Dinerstein et al. 2007). In addition, poaching and illegal wildlife trade is expected to increase because people move

between borders with little limitation. The arrest of poachers of different nationalities in Kathmandu (90% of traders are from the Tibetan community) with large volumes of wildlife products, suggests that Nepal is both a transit and source of trade in wildlife products (Yonzon 2005).

V. Conclusion

My study shows that the CITES implementation process in Nepal, involving multiple actors at multiple levels, has been severely impacted by gaps in policy design, drawbacks in implementing agencies and contextual issues of implementation. Numerous flaws that hinder implementation suggest problems in performance of the enforcement chain and low public and political support. These conditions infer CITES violations, as indicated by illegal international trade of protected species, is large and growing.

Primarily, the role of the army and national park staff in detecting illegal activities and arresting potential violators inside parks is negligible because of the lack of security which is prompted by a lack of responsibility, accountability and resources. Also, the role of police and customs in arresting offenders has been limited by little knowledge of wildlife products and the low priority of the issue. Moreover, punishment of high profile traders, if arrested, is low compared to front line poachers, which is at least partly a result of corruption. Lack of knowledge and priority among wardens, DFOs and Appellate and Supreme Court judges have also lowered the probability of punishment. In addition, the lack of specific roles and responsibilities, a clear hierarchy and open punishment provisions have decreased the probability of detection and punishment. The arrangement

needed to encourage communication, coordination and cooperation among stakeholders to improve enforcement is truly lacking. My study found that the probability of enforcement and monitoring of the enforcement of law is too little to curb existing rates of CITES violation. Many redistributive policies such as community based conservation programs in buffer zones of national parks have been implemented to improve conservation attitudes to safeguard wildlife. But socio economic benefits and social capital necessary to enhance favorable conservation attitudes and behavior is low. NGOs lag in building public and political salience and support. Advocacy and dissemination of information regarding illegal wildlife trade issues is inadequate. In addition, political instability increases corruption and influences bureaucratic and judicial decision making. Many external factors such as high market prices and demand in East Asia and porous borders to smuggle illegal goods have also contributed the growth of illegal trade.

Given the circumstances, any future policy that aims to address illegal wildlife trade should focus on increasing the performance of the enforcement chain. Essentially, policy should opt for strengthening each factor within the chain of enforcement including the probability of detection, arrest, persecution and conviction. At present, stringency of law is essential because of the presence of organized crime, porous borders, poor governance, and lack of adequate resources. However, prioritization among the factors needs further empirical study. In addition, policy should include a performance appraisal system for each implementing agency to improve commitment. The (MIST) integrated spatial management information system (Walston et al. 2010) that was mentioned during interviews could be beneficial to enhance the probability of detection, as it helps to monitor patrolling. To increase the probability of arrest outside protected areas, the role

of police and customs should be encouraged with adequate training programs. The role of customs especially is important in management and enforcement of CITES because of the large numbers of field level staff throughout the country. Also, community based informant networks need to be encouraged for better information and intelligence sharing. Although prevailing laws have provisions to reduce poaching and illegal wildlife trade, the system lacks clear responsibilities, chains of command, and performance appraisals. Therefore, these issues should be inscribed into new legislation or amended in existing legislation.

Non-governmental organizations play important roles in the public and political domain to help build consensus, salience and support of issues through information sharing and advocacy. Such organizations also help to build new knowledge by funding and functioning as watchdogs in support of conservation. Therefore, the role of NGOs should be promoted. In addition, as people's perception of illegal wildlife trade depends on how media frame the problem, the role of media needs to be enhanced. More importantly, as places near protected areas have many poor and illiterate people who can be lured into illicit activities, socio economic development, awareness and education programs are essential to build positive conservation attitudes and behavior. Finally, as many policy implementation gaps mentioned above suggest the intricate problems associated with wildlife governance, further empirical study is needed.

LIST OF REFERENCES

- Adhikari, T. K. 2002. The Curse of Success. Habitat Himalaya, Vol XI, No.III
- Akella, A. S., and J. B. Canno. 2004. Strengthening the Weakest Link: Strategies for Improving the Enforcement of Environmental Laws Globally. Washington D.C. Center for Conservation and Government at Conservation International. Available from <http://www.oecd.org/dataoecd/18/37/33947741.pdf> (accessed February 2, 2011)
- Aryal, R. S. 2009. CITES Implementation in Nepal and India (Law, Policy and Practice), Kathmandu: WWF Available from http://www.tinpal.org/WWF_Oct_29_final_ukbrbt_Revised.pdf (accessed February 6, 2011)
- Baral, N., and J. Heinen. 2006. The Maoist people's War and Conservation in Nepal. Politics and the Life Science 24:1-2.
- Becker, G. S. 1968. Crime and Punishment: An Economic Approach. The Journal of Political Economy 76:169-217.
- Bernard, H. R. 2006. Research Methods in Anthropology: Qualitative and quantitative Approaches/ 4th edition. Altamira Press
- Bhujju, U. K., R. S. Aryal, and P. Aryal. 2009. Report on the Facts and Issues on Poaching of Mega Species and Illegal Trade in Their Parts in Nepal Study Commissioned by Transparency International Nepal (TIN).
- Blundell, A. G., and M. B. Mascia. 2005. Discrepancies in Reported Levels of International Wildlife Trade. Conservation Biology 19:2020–2025.
- Bookbinder, M. P., E. Dinerstein, A. Rijal, H. Cauley, and A. Rajouria. 1998. Ecotourism's Support of Biodiversity Conservation. Conservation Biology 12:1399-1404
- Bradburn, N. M., S. Sudman, and B. Wansink. 2004. Asking Questions: The Definitive Guide to Questionnaire Design : for Market Research, Political Polls, and Social and Health Questionnaires. San Francisco John Wiley & Sons, Inc. (US)
- Butchart, S. H. M., M. Walpole, B. Collen, A. Van Strien, J. P. W. Scharlemann, R. E. A. Almond, J. E. M. Baillie, B. Bomhard, C. Brown, J. Bruno, K. E. Carpenter, G. M. Carr, J. Chanson, A. M. Chenery, J. Csirke, N. C. Davidson, F. Dentener, M. Foster, A. Galli, J. N. Galloway, P. Genovesi, R. Lamarque, F. McRae, A. Oldfield, D. Pauly, S. Sauer, B. Skolnik, D. Spear, D. S. Smith, S. N. Stuart, A.

- Symes, M. Tierney, T. D. Tyrrell, J. C. Vié, and R. Watson. 2010. Global Biodiversity: Indicators of Recent Declines. *Science* 328: 1164
- Chundawat, R. S., B. Habib, U. Karanth, K. Kawanishi, J. Ahmad Khan, T. Lynam, D. Miquelle, P. Nyhus, S. Sunarto, R. Tilson, and S. Wang. 2010a. *Panthera tigris* in IUCN 2010. IUCN Red List of Threatened Species. Available from <http://www.iucnredlist.org/apps/redlist/details/15955/0> (accessed on February 3, 2011)
- Chundawat, R. S., J. A. Khan, & D. P. Mallon. 2010b. *Panthera tigris ssp. tigris* in: IUCN 2010. IUCN Red List of Threatened Species. Available from <http://www.iucnredlist.org/apps/redlist/details/136899/0> (accessed on February 3, 2011)
- CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora. Available from <http://www.cites.org/>. (accessed on February 4, 2011).
- Damanaia, R., J. Seidensticker, T. Whitten, G. Sethi, K. Mackinnon, A. Kiss, and A. Kushlin. 2008. *A Future for Wild Tigers*. Washington, D.C. World Bank.
- Damanaia, R., P. G. Fredriksson, and M. Mani. 2004. The Persistence of Corruption and Regulatory Compliance Failures: Theory and Evidence. *Public Choice* 121:363–390.
- Dangol, Y., and Paudyal, A. 2008. EGH Headlines Himalaya. Watchdog Newsletter. Issue 15
- Department of National Parks and Wildlife Conservation., Nepal. Available from <http://www.dnpwc.gov.np/protected-areas.asp>. (accessed on February 3, 2011)
- Dinerstein, E., C. Loucks, E. Wikramanayake, J. Ginsberg, E. Sanderson, J. Seidensticker, J. Forrest, G. Bryja, A. Heydlauff, S. Klenzendorf, P. Leimgruber, J. Mills, T.G. O'Brien, M. Shrestha, R. Simons, and M. Songer. 2007. The Fate of Wild Tigers. *BioScience* 57:508–514.
- DNPWC. 2007. *Tiger Conservation Action Plan for Nepal*. Kathmandu: government of Nepal, Ministry of Forests and Soil Conservation, Department of National Parks and Wildlife Conservation.
- DNPWC. 2008. *Annual Report 2007-2008*. Ministry of Forest and Soil Conservation, Department of National Parks and Wildlife Conservation, Kathmandu
- Dobson, A., and L. Lynes. 2008. How Does Poaching Affect The Size Of National Parks? *Trends in Ecology & Evolution* 23: 177-180.

- Ehrlich, P. R., and A. H. Ehrlich. 1992. The Value of Biodiversity. *Ambio* 21: 219-226.
- Faure, M., and J. Lefevre. 1999. Compliance with International Environmental Agreements. In: N.J. Vig and R.S. Axelrod (eds) 1999. *The global environment: institutions, law, and Policy*. CQ, Washington, D.C.
- Fuller, K. S., G. Hemley, and S. Fitzgerald. 2009. Wildlife Trade Law Implementation in Developing Countries: The Experience in Latin America. *Boston University International Law Journal* 5: 289.
- Ghimire, G., and S. Bhatta. 2010. Headlines Himalaya. *Watchdog Newsletter*. Issue 111.
- Government of Nepal. 1973. National Park and Wildlife Conservation Act 1973. *Nepal Gazette*, 2029.
- Government of Nepal. 1995. Forest Act 1995. *Nepal Gazette*, 2049.
- Government of Nepal. 2007. Costum Act 2007. *Nepal Gazette*, 2064.
- Government of Nepal. 1997. Environment Protection Act 1997. *Nepal Gazette*, 2053.
- Government of Nepal. 1957. Export and Import (Control) Act 1957. *Nepal Gazette*, 2013.
- Hamilton, A., A. Cunnihgham, D. Byarugabaand F. Kayanja. 2000. Conservation in a region of political instability: Bwindi Impenetrable Forest, Uganda. *Conservation Biology*. 14:1722-1725.
- Heinen, J. T., P. B. Yonzon, and B. Leisure. 1995. Fighting the Illegal Fur Trade in Kathmandu, Nepal. *Conservation Biology* 9:246–254.
- Heinen, J. T., and D. P. Chapagain. 2002. On the Expansion of Species Protection in Nepal: Advances and Pitfalls of New Efforts to Implement and Comply with CITES. *Journal of International Wildlife Law and Policy* 5:235-250.
- Heinen, J. T., 2010. The importance of a social science research agenda in the management of protected natural areas, with selected examples. *Botanical Review* 76:140-164.
- Hilborn, R., P. Arcese, M. Borner, J. Hando, G. Hopcraft, M. Loiboki, S. Mduma, and A. R. E. Sinclair. 2006. Effective enforcement in a conservation area. *Science* 314:1266.
- Hooper, D. U., F. S. Chapin, J. J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J. H. Lawton, D. M. Lodge, M. Loreau, S. Naeem, B. Schmid, H. Setälä, A. J. Symstad, J. Vandermeer, and D. A. Wardle. 2005. Effects of biodiversity on ecosystem functioning: a consensus of current knowledge. *Ecological Monographs* 75:3–35.

- Ives, A. R., and S. R. Carpenter. 2007. Stability and Diversity of Ecosystems. *Science* 317: 58.
- Jacobson, H. J., and E. B. Weiss. 1998. A framework for Analysis. In Weiss, E. B., and H. J. Jacobson. 1998. *Engaging Countries: Strengthening Compliance with International Environmental Accords*, Global Environmental Accords. Cambridge, Mass. MIT Press, 1998.
- Keane, A., J. P. G. Jones, G. E. Jones, and E. J. Milner-Gulland. 2008. The Sleeping Policeman: understanding issues of enforcement and compliance in Conservation. *Animal Conservation* 11: 75-82.
- Kraft, M. E., and N. J. Vig. 2009. *Environmental Policy: New Directions for the Twenty-First Century*, ed. (Fifth edition). Washington: Congressional Quarterly Press.
- Kumar, K. 1989. *Conducting Key Informant Interviews in Developing Countries*. Program Design and Methodology Report 13. Washington, D.C.: U.S. Agency for International Development.
- Leader-Williams, N. and E. J. Milner-Gulland. 1993. Policies for the Enforcement of Wildlife laws: the balance between detection and Penalties in Luangwa Valley, Zambia. *Conservation Biology* 7: 611-617.
- Lewis, D., G. B. Kaweche, and A. Mwenya, 1990. Wildlife Conservation Outside Protected Areas—Lessons from an Experiment in Zambia. *Conservation Biology* 4: 171-180.
- Lewis, M .G. 2009. CITES and Rural Livelihoods: The Role of CITES in making Wildlife Conservation and Poverty Reduction Mutually Supportive. *Journal of Internatiional Wildlife Law and Policy* 12:248-275.
- Loreau, M., S. Naeem, P. Inchausti, J. Bengtsson, J. P. Grime, A. Hector, D. U. Hooper, M. A. Huston, D. Raffaelli, B. Schmid, D. Tilman, and D. A. Wardle. 2001. Biodiversity and Ecosystem Functioning: Current Knowledge and Future Challenges. *Science* 294: 804.
- Mandal, R. A., B. Jha, S. K. Wagle, U. B. Ghimire, and B. B. Kalikotey. 2008. *Challenges on Control of Illegal Trade of Pterocarpus Santalinus. A Case Study from District Forest Office Kathmandu*. Ministry of Forest and Soil Conservation. Training Division, Babarmahal, Kathmandu.
- Martin, E. 2004. Rhino poaching in Nepal during an insurgency. *Pachyderm* 36: January–June .

- Martin, E. B., and C. Martin. 2006. Insurgency and poverty: recipe for rhino poaching in Nepal *Pachyderm* 41: July–December.
- Martin, E., C. Martin, and L. Vigne. 2009. Recent political disturbances in Nepal threaten rhinos: lessons to be learned. *Pachyderm* 45: July June.
- McNeely, J. A., V. P. Kapoor, L. Zhi, L. Olsvig-Whittaker, K. M. Sheikh, and A. T. Smith. 2009. Conservation Biology in Asia: the Major Policy Challenges. *Conservation Biology* 23: 805–810.
- Mehta, J. N. and J. T. Heinen. 2001. Does Community-Based Conservation Shape Favorable Attitudes Among Locals? An Empirical Study from Nepal. *Environmental Management* 28:165–177.
- Milliken T., R. H. Emslie, and B. Talukdar. 2009. African and Asian Rhinoceroses-Status, Conservation and Trade. A report from the IUCN Species Survival Commission. African and Asian Rhino Specialist Groups and Traffic to the CITES Secretariat. CoP 15 Doc. 45.1. Available from <http://www.cites.org/common/cop/15/doc/E15-45-01A.pdf> (accessed December 6, 2010).
- Milner-Gulland, E. J., and N. Leader-Williams, 1992. A Model of Incentives for the Illegal Exploitation of Black Rhinos and Elephants: Poaching Pays in Luangwa Valley, Zambia. *Journal of Applied Ecology* 29: 388-401.
- Ming, L., G. Zenxiang, L. Xinhai, W. Sung, and J. Niemela. 2000. Illegal wildlife trade in the Himalayan region of China. *Biodiversity and Conservation* 9: 901–918.
- Najam, A. 1995. Learning from the literature on policy implementation: A synthesis perspective (Working Paper WP-95-61). Laxenburg: International Institute for Applied Systems Analysis. Available from <http://www.iiasa.ac.at/Admin/PUB/Documents/WP-95-061.pdf> (accessed on December 2, 2010)
- Nepal Army. Government of Nepal. Available from <http://www.nepalarmy.mil.np/env-con.php> (accessed on January 20, 2011).
- Nijman. V. 2009. An overview of international wildlife trade from Southeast Asia. *Biodiversity Conservation*. *Biodiversity Conservation* 19:1101–111.
- Oli, K. P. 2005. Biodiversity Resources Governance in Times of Armed Conflict. Pages 68-83 in J. A. McNeely, T. M. McCarthy, A. Smith, L. O. Whittaker, and E. D. Wikramanayake, editors. *Conservation Biology in Asia*. Society for Conservation Biology Asia Section and Resources Himalaya Foundation, Kathmandu.

- Ong, D.M. 1998. The Convention on International Trade in Endangered species (CITES, 1973): implications of recent developments in international and EC environmental law, *Journal of Environmental Law* 10. Oxford University Press, Oxford, United Kingdom.
- Poudyal, M., K. Rothley, and D. Knowler. 2005. Ecological and economic analysis of poaching of the greater one-horned rhinoceros (*Rhinoceros unicornis*) in Nepal. *Ecological Applications* 19:1693-1707.
- Pressman, J. L and A. Wildavsky. 1973. *Implementation: How great Expectations in Washington area Dashed in Oakland; or Why It's amazing that Federal Programs Work At All*. Berkely: University of California press.
- Pretty, J. 2003. Social Capital and the Collective Management of Resources. *Science* 302: 1912-1914.
- Pretty, J. and D. Smith. 2004. Social Capital in Biodiversity Conservation and Management. *Conservation Biology* 18: 631–638.
- Rands, M. R. W, W. M. Adams, L. Bennun, S. H. M. Butchart, A. Clements, D. Coomes, A. Entwistle, I. Hodge, V. Kapos, J. P. W. Scharlemann, W. J. Sutherland, B. Vira. 2010. Biodiversity Conservation: Challenges Beyond 2010. *Science* 329: 1298-1303.
- Reeve, R. 2006. Wildlife trade, sanctions and compliance: lessons from the CITES regime. *International Affairs* 82: 881-897.
- Rosser, A. M., and S. A. Mainka. 2002. Overexploitation and Species Extinctions. *Conservation Biology*. 16: 584–586.
- Ryan, G. W., and H. R. Bernard. 2003. Techniques to Identify Themes. *Field Methods* 15: 85. DOI: 10.1177/1525822X02239569.
- Sabatier, P. A. 1986. Top-down and Bottom-up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis. *Journal of Public Policy*. 6:21-48.
- Shaffer, M. L. 1981. Minimum population sizes for species conservation. *BioScience* 31:131-134.
- Sutherland. W. J., W. M. Adams, R. B. Aronson, R. Aveling, T. M. Blackburn, S. Broad, G. Ceballos, I. M. Côté, R. M. Cowling, G. A. B. DA Fonseca, E. Dinerstein, P. J. Ferraro, E. Fleishman, C. Gascon, M. Hunter Jr., J. Hutton, P. Kareiva, A. Kuria, D. W. Macdonald, K. Mackinnon, F. J. Madgwick, M. B. Mascia, J. Mcneely, E. J. Milner-Gulland, S. Moon, C. G. Morley, S. Nelson, D. Osborn, M. Pai, E. C. M. Parsons, L. S. Peck, H. Possingham, S. V. Prior, A. S. Pullin, M. R. W.

- Rands,* , J. Ranganathan, K. H. Redford, J. P. Rodriguez, F. Seymour, J. Sobel, N. S. Sodhi, A. Stott,* , K. Vance-Borland, A. R. Watkinson. 2009. One Hundred Questions of Importance to the Conservation of Global Biological Diversity. *Conservation Biology* 23: 557–567.
- Talukdar, B. K., R. Emslie, S. S. Bist, A. Choudhury, S. Ellis, B. S. Bonal, M. C. Malakar, B. N. Talukdar, and M. Barua. 2008. Rhinoceros unicornis. In: IUCN 2010. IUCN Red List of Threatened Species. Available from <http://www.iucnredlist.org/apps/redlist/details/19496/0> . (accessed on February 6, 2011).
- Traffic North America. 2009. Wildlife Trade Control; CAFTA-DR Regional Gap Analysis Report. TRAFFIC North America. Washington DC.: World Wildlife Fund.
- Traffic. 2007. The State of Wildlife Trade in China- Information on the trade in wild animals and plants in China. Available from <http://www.traffic.org/home/2008/11/12/state-of-wildlife-trade-in-china-finds-consumption-rising-in.html> (accessed on February 6, 2011)
- 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 . East Asia and Pacific Region Sustainable Development Discussion Papers. East Asia and Pacific Region Sustainable Development Department, World Bank, Washington, DC.
- Traffic. 2009. Asian Wildlife Trade Bulletin. Issue 7. Available from. www.traffic.org/regional.../traffic_pub_asia_wildlife_trade7.pdf (accessed on February 9, 2011)
- Tremblay, M. A. 1957. The Key Informant Technique. A Nonethnographic Application. *American Anthropologist* 59:688–701.
- UNEP-WCMC/CITES (United Nations Environmental Programme-World Conservation Monitorig Centre/Convention on International Trade in Endangered Species of Wild Fauna and Flora). Available from <http://www.unep-wcmc.org/citestrade/trade.cfm> (accessed on January 6, 2011)
- UNEP. 2006 Manual on Compliance with and Enforcement of Multilateral Environmental Agreements. UNEP. Available from http://www.unep.org/dec/docs/unep_manual.pdf (accessed on May 25, 2010).
- Victor, D. G. 1998. The Implementation and Effectiveness of International Environmental Commitments: Theory and Practice. *Global Environmental Accords*. Publication: Laxenburg, Austria. Cambridge, Mass. MIT Press, 1998.

- Vogel, D. and T. Kessler. 1998. How Compliance Happens and Doesn't Happen Domestically. In E. B. Weiss, and H. J. Jacobson. 1998. Engaging Countries: Strengthening Compliance with International Environmental Accords, Global Environmental Accords. Cambridge, Mass. MIT Press, 1998.
- Walker K. I. 2009. Protected-Area Monitoring Dilemmas: a New Tool to Assess Success. *Conservation Biology* 23:1294–1303.
- Walston. J. K., U. Karanth, and E. J. Stokes. 2010. Avoiding the Unthinkable: What Will it Cost to Prevent Tigers Becoming Extinct in the Wild? Wildlife Conservation Society, New York.
<http://www.globaltigerinitiative.org/download/ELF/session-papers-and-presentations/TIGER-REPORT-Part-1-small.pdf>
 (accessed on January 7, 2011)
- Wasser, S. K., B. Clark, and C. Laurie. 2009. The Ivory Trail. *Scientific American* 301: 68 – 76
- Weiss E. B., and H. J. Jacobson. 1998. Engaging Countries: strengthening Compliance with International Environmental Accords. The MIT Press. 1-18.
- Wells, M. P., and K. E. Brandon. 1993. The Principles and Practice of Buffer Zones and Local Participation in Biodiversity Conservation. *Ambio* 22: 157-162.
- Wells, M.P., and T. O. McShane, T.O. 2004. Integrating protected area management with local needs and aspirations. *Ambio* 33:513-519.
- World Bank. Available from <http://www.worldbank.org.np>. (accessed on January 6, 2011)
- World Conservation Union (IUCN). Available from <http://www.iucnredlist.org> (accessed on January 5, 2011)
- Wyler, L. S., and P. A. Sheikh. 2008. International illegal trade in wildlife: threats and U.S. policy. Congressional Research Service report for Congress. Penny Hill Press, Damascus, Maryland.
- Yonzon, P. 2005. The Illicit Trade on Megavertebrates of Asia. In McNeely, J. A., T. M. McCarthy, A. Smith, L. O. Whittaker, and E. D. Wikramanayake, editors. *Conservation Biology in Asia*. Society for Conservation Biology Asia Section and Resources Himalaya Foundation, Kathmandu.
- Zhou, M. 2004. Research on woody material of Chinese furniture of the Ming and Qing Dynasties -- the Red Sandal Wood . *Collectors (Shoucangjia)* 2004: 4-5. In Chinese

Appendices

Appendix 7: Protected Animals under NPWC Act, 1973

Mammals

S.N	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1.	<i>Macaca assamensis</i>	Assamese monkey	Assamis rato bandar
2.	<i>Manis pentadactyla</i>	Indian pangolin	Salak
3.	<i>Caprolagus hispidus</i>	Hispid hare	Hispid kharayo
4.	<i>Canis lupus</i>	Wolf	Bwanso
5.	<i>Ursus arctos</i>	Himalayan Bear	Himali rato bhalu
6.	<i>Ailurus fulgens</i>	Red panda	Habre
7.	<i>Prionodon pardicolor</i>	Spotted linsang	Silu
8.	<i>Felis bengalensia</i>	Leopard cat	Chari bagh
9.	<i>Felis lynx</i>	Lynx	Lynx
10.	<i>Neofelis nebulosa</i>	Clouded leopard	Dwanse chituwa
11.	<i>Panthera tigris</i>	Tiger	Bagh
12.	<i>Panthere uncia</i>	Snow leopard	Hinu chituwa
13.	<i>Elephas maximus</i>	Asiatic elephant	Hatti
14.	<i>Rhiniceros unicornis</i>	Rhinoceros	Gainda
15.	<i>Sus salvanius</i>	Pygmi hog	Pudke Bandel
16.	<i>Moschus moschiferos</i>	Musk deer	Kasturi mirga
17.	<i>Cervus duvauceli</i>	Swamp deer	Barhasingha
18.	<i>Bos gaurus</i>	Gaur	Gauri gai
19.	<i>Bos grunniens</i>	Wild yak	Yak

20.	<i>Bubalus bubalis</i>	Wild buffalo	Arna
21.	<i>Ovis ammon</i>	Great tibetan sheep	Nayan
22.	<i>Pantholops hodgsoni</i>	Tibetan antelope	Chiru
23.	<i>Antelope cervicapra</i>	Black buck	Krisnasar
24.	<i>Tetraceros quadricornis</i>	Four horned antelope	Chauka
25.	<i>Hyaena hyaena</i>	Striped hyna	Hundar
26.	<i>Platanista gangetica</i>	Gangetic dolphin	Shons

Birds

S.N	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1.	<i>Catreus wallichii</i>	Chir pheasant	Kalij
2.	<i>Lophophorus impeyanus</i>	Impeyan pheasant	Danfe
3.	<i>Tragopan satyra</i>	Crimson horned pheasant	Monal
4.	<i>Ciconia ciconia</i>	White stork	Seto sarus
5.	<i>Eupodotis bengalensis</i>	Bengal florican	Khar majur
6.	<i>Sypheotides indica</i>	Lesser florican	Sano khar majur
7.	<i>Grus grus</i>	Sarus crane	Sarus
8.	<i>Buceros bicornis</i>	Giant hornbill	Thulo dhanesh
9.	<i>Ciconia nigra</i>	Black stork	Kalo sarus

Reptiles

S.N	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1.	<i>Gavialis gangeticus</i>	Ghariyal	Ghariyal gohi
2.	<i>Python spp.</i>	Python	Ajingar

3.	<i>Varanus flavescens</i>	Monitor lizard	Sun gohoro
----	---------------------------	----------------	------------

Appendix 8: Plants banned under Forest Act, 1993 and Forest Regulation, 1995

Plants banned for collection, use, sale and distribution, transport and export

SN	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1	<i>Dactylorhiza hatagirea</i>		Panchaule, Hattajadi, Salampanja
2	<i>Juglans regia</i>	Walnut (bark)	Okhar bokra

Plants banned for export except processed with permission of Department of Forest

SN	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1	<i>Abies spectabilis</i>	Himalayan fir, Silver fir	Gobresalla, Talispatra, Thingresalla
2	<i>Cinnamomum glaucescens</i>		Sugandhakokila, Malagedi
3	<i>Cordyceps sinensis</i>	Caterpillar fungus	Yarchagumba, Jeevanbuti
4	<i>Nardostachys grandiflora</i>	Spikenard	Jatamansi, Bhulte, Balchhar
5	<i>Parmelia nepalensis</i>	Lichen	Jhyau
6	<i>Rauvolfia serpentina</i>	Indian snake root	Sarpagandha
7	<i>Rock exudate</i>	Rock exudates	Silajit
8	<i>Taxus baccata</i>	Himalayan yew	Lauth salla, Talispatra
9	<i>Valeriana jatamansii</i>	Himalayan valerian	Sugandhabal, Tagar

Trees banned for transport, export and felling for commercial purpose

SN	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1	<i>Acacia catechu</i>	Cutch tree	Khayar
2	<i>Bombax ceiba</i>	Silk Cotton tree	Simal
3	<i>Dalbergia latifolia</i>	Rose Wood	Satisal
4	<i>Juglans regia</i>	Walnut	Okhar
5	<i>Michelia champaca</i>	Orange champaca	Champ
6	<i>Pterocarpus marsupium</i>	Indian Kino Tree	Bijayasaal
7	<i>Shorea robusta</i>	Sal	Sal

Plant banned for export except recommendation of Department of Plant Resource as the valid species and availability of the species by DoF

SN	SCIENTIFIC NAME	ENGLISH NAME	LOCAL NAME
1	<i>Neopicrorhiza scrophulariiflora</i>	Picrorhiza	Katuki, Kutaki