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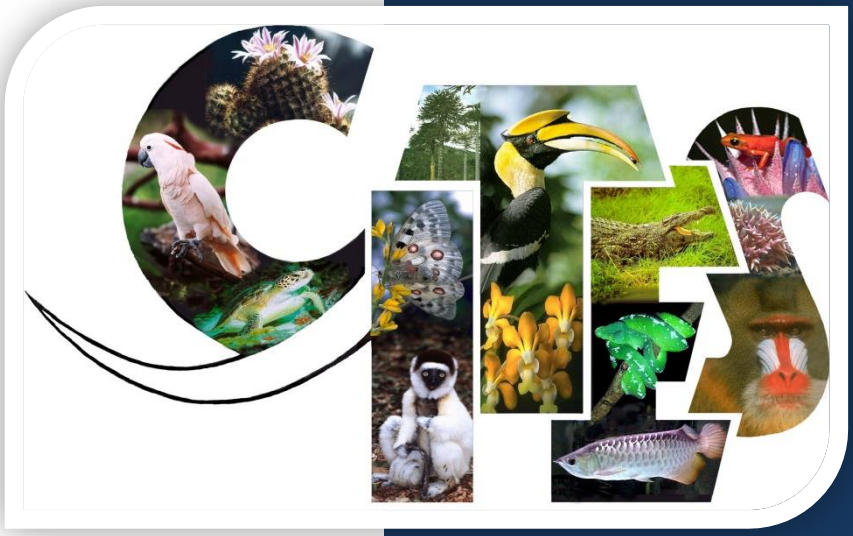
# The relationship between corruption and compliance in the CITES international agreement



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**The relationship between corruption and compliance in the CITES international agreement**

**Master thesis**
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## Summary

This thesis attempts to identify a possible relationship between two variables; the level of corruption and the degree of compliance in the context of the CITES international agreement. There are issues concerned with the translation of the CITES regulations into domestic law by its members. The international organization itself even acknowledges these issues. A theory is used that described a possible relationship between the level of corruption and the degree of compliance. There is tried to assess whether the level of corruption as a singular factor is significant in affecting compliance of countries with the treaty. This is done by using the co-variational analysis. A prediction was derived from the theories to test the relationship between the two concepts. The prediction in the hypothesis was that the lower the level of corruption of a country the higher the degree of compliance with the CITES international commitments is. The study concludes that the level of corruption as a singular factor is insignificant in affecting the degree of compliance.

The above result was the main focus of the study, but throughout the process a second outcome emerged. The second outcome suggests that the isolated phenomenon of the Convention, Article VIII might be too broad to study. The regulations in the Convention range in many different directions and it might thus not be possible to pin one or more factor(s) to it in affecting the compliance of countries. While other researchers do not explicitly mention this fact, proves the literature on this subject to be quite fragmented. A more narrowed down approach for future research is thus suggested. The same accounts for the policy implications of the Convention. As the phenomenon is quite complex, can be questioned if the monitoring of the regulations is too difficult. Creating new policies and actions to combat the problem should be aimed more specifically, because the regulations range too wide to come up with a broad approach. Multiple policies and actions need to be created to deal with each regulation separately.

## Preface

In front of you lies the report ‘The relationship between corruption and compliance in the CITES international agreement’ as graduation thesis for my master International Public Management and Policy (IMP) at Erasmus University Rotterdam. As a student I pleasantly worked and with great interest on the subject of the CITES international agreement.

The freedom in choosing the topic by Erasmus University provided me with the opportunity to pursue my interests in the environment and wildlife. The topic of the CITES international agreement fulfilled these interests, by assessing if corruption can affect the compliance of the countries with CITES regulations. These regulations ensure that the international trade does not threaten the survival of flora and fauna.

The thesis is formed thanks to my supervisor, my thesis meeting group and several fellow students. Dr. K.H. Stapelbroek and the others from my thesis meeting group; thank you for the feedback during the period. My fellow students; thank you for reviewing my thesis.

Remy de Bruin – Pijnacker, 7 July 2017

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## List of abbreviations

| Abbreviation | Explanation |
|---|---|
| AFCD | – Agriculture, Fisheries and Conservation Department |
| CAWT | – Coalition Against Wildlife Trafficking |
| CITES | – Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| COV | – Co–variational analysis |
| EC | – European Commission |
| ECC | – European Economic Community |
| EIA | – Environmental Investigation Agency |
| ENCA | – ENews Channel Africa |
| ETIS | – Elephant Trade Information System |
| EU | – European Union |
| GACC | – General Administration of Customs People's Republic China |
| GDP PPP | – Gross Domestic Product Purchasing Power Parity |
| IEG World Bank | – Independent Evaluation Group World Bank |
| IFAW | – International Fund for Animal Welfare |
| IOs | – International organizations |
| IWT | – International wildlife trade/trafficking |
| KES | – Kenyan Shilling |
| LEMIS | – Law Enforcement Management Information System |
| MA | – Management Authority |
| MARD | – Viet Nam's Ministry of Agriculture and Rural Development |
| MOEF | – Ministry of Environment, Forest and Climate Change |
| MONREC | – Ministry of Natural Resources & Environmental Conservation Forest Department |
| NEMBA | – National Environmental Management: Biodiversity Act |
| NGO | – Non–governmental organization |
| NPA | – National Parks Act |
| PWTI | – Pasiansi Wildlife Training Institute |
| SA | – Scientific Authority |
| SSN | – Species Survival Network |
| TRAFFIC | – Trade Record Analysis of Flora and Fauna in Commerce |
| TZS | – Tanzanian Shilling |
| UN | – United Nations |
| UNEP–WCMC | – United Nations Environment Programme World Conservation – Monitoring Centre |
| USD | – U.S. Dollars |
| VND | – Vietnam Dong |
| WARPA | – Wild Animals Reservation and Protection Act |
| WCMA | – Wildlife (Conservation and Management) Act |
| WPSI | – Wildlife Protection Society of India |
| WWF | – World Wide Fund |

# 1 – Introduction

The first section introduces the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) by providing general information. The part that follows, describes the problem indication of the study. The related research question is presented in section 1.3, followed by a review of the practical– and academic relevance in section 1.4. The final part includes a reading guide for the thesis.

## 1.1 – An introduction to: What is CITES?

The CITES international agreement is an international agreement between governments and organizations spanning the globe. The main goal is to ensure that the international trade of plants and –wild– animals does not threaten their survival (CITES, 2017a).

The concept of wild animals is a broad term that includes several distinctions concerning international wildlife trade/trafficking (IWT).

The first distinction deals with the species of which commercial international trade is generally prohibited and which counts for about 3% of the whole IWT. The second distinction is about commercial international trade under strict regulation, in order to make it legal, sustainable and traceable. It covers most of the IWT and counts for 96% of the trade. The last distinction includes commercial international trade regulations only to ensure legal origin. This last form is the smallest part of wildlife trade and accounts for only 1% (Scanlon, 2014).

182 Countries, together with the European Union (EU) as a member (CITES, 2017b), aim to protect roughly 5,600 animals and 30,000 kinds of plants against over–exploitation. The species are listed into three Appendices, ranked on how they are threatened by international trade (CITES, 2017c).

Appendix I discusses species threatened with extinction, both animals and plants. Only in exceptional circumstances is international trade of such species allowed. Appendix II includes species which are not particularly threatened with extinction, but of which controlled international trade is necessary to secure their survival. Appendix III concerns the protection of species, specifically ask for by countries. Countries are able to ask assistance of other CITES Parties[1] to control international trade, in order to secure those species survival (CITES, 2017d).

> *"The world is dealing with an unprecedented spike in illegal wildlife trade, threatening to overturn decades of conservation gains. Ivory estimated to weigh more than 23 metric tons –a figure that represents 2,500 elephants– was seized in the 13 largest seizures of illegal ivory in 2011. Poaching threatens the last of our wild tigers that number around 3,890. Rhino poaching in South Africa increased from 13 to 1,004 between 2007 and 2013.* (WWF, 2017a)*"*

Nowadays seems the need for such a Convention obvious, as the quotation of the World Wide Fund (WWF) presents. While in the beginning of the 1960s these ideas were relatively new, is currently the need for CITES quite clear. The value of illegal international trade is estimated at billions of U.S. Dollars (USD), including hundreds of millions of animals and plants (CITES, 2017a). This IWT industry includes all kinds of products, for instance, from bone carvings till fur products (CITES, 2017e).

The consequences of this billion dollar industry are quite serious. Because of the high profits is illegal IWT often linked with terrorism organizations as Al Qaeda and regional militias like Boko Harem. They use the profits to fund lethal terrorism attacks. An example of such a IWT–funded–attack was performed by Shabad –Al Qaeda's East Africa branch– on Nairobi's Westgate mall in 2013 (McConnel, 2015).

[1] Members of the CITES international agreement are called 'Parties' (CITES, 2017d)

Furthermore, the environmental impact of IWT is as well of significant proportions. The expansion of human populations on earth results in an increased demand for species and products. While many species are barely in balance at the moment, causes overexploitation even more survival issues. The balance of nature needs to be controlled through the Convention. When one species is threatened, another one will be damaged as well. For instance, overfishing reduces the number of fish, but it has also an impact on other marine species that eat those fish to survive (WWF, 2017b).

Moreover, the extinction of certain species damages the human lives, as some poorer areas in the world rely on their domestic meat and plants. When such species are being threatened by IWT, cultures are severely affected because of the poor availability of alternatives (WWF, 2017b).

The previous information shows that many problems exist surrounding the subject of the CITES international agreement. With still many billions of dollars pertaining in the illegal international trade industry, the Convention is far from perfect. The following section discusses obstacles that occur in the content of the treaty, which will result as the problem indication.

## 1.2 – The problem indication: Obstacles within the Convention

The CITES international agreement signed March 1973 at Washington D.C. and lastly amended April 1983 at Gaborone, includes as much as 25 articles to ensure the survival of species. The part that is especially relevant for the problem indication is 'Article VIII: Measures to Be Taken by the Parties'[2]. While the treaty is voluntarily, the Convention is legally binding when a country turns into a member. The regulations provided under CITES Article VIII need thus to be implemented. The Convention does not replace the national laws of the countries though, but rather functions as guideline on how countries are ought to translate those measures into domestic action.

The translating of international commitments into domestic action causes problems for CITES. Scanlon –the Secretary General, CITES Secretariat– recalls that this translation part is where: *"[t]he rubber hits the road* (Scanlon, 2014)*".* In other words, the organization itself acknowledges that there are issues concerning the translation of international commitments into domestic law. As a result, it is an interesting academic question why such problems occur.

As there are many factors which can attribute to the troubling of the translation process, this study only focusses on the one related to corruption. Next is shortly reflected on this choice, which is elaborated on in the literature review.

One of the first times corruption was linked to wildlife law implementation, was in 1987 by Fuller et al. (pp.289–310). Although, they do not provide lots of information on the issue, their text indicates that corruption is an important aspect to take into account:

> "*Many CITES management authorities and wildlife protection agencies in Latin America operate without the benefit of adequate funding, personnel, facilities, and training opportunities. Although hardly unique to Latin America, this problem is particularly acute in countries where government resources devoted to law enforcement are already severely stressed, as in Bolivia and Mexico. In addition, corruption among enforcement officers can hinder national efforts to control trade.* (1987:p.292, underline added)*".*

As the quote implies could corruption play a role in controlling of trade, this thesis will focus on the relationship between the level of corruption and the degree of compliance of countries with the Convention.

[2] See Appendix 1 for the full text

## 1.3 – Research question & sub–questions

The center of attention will be the translation of international commitments of the Convention into domestic law, or in other words: the extent to which countries comply. The level of corruption will be studied in relation to the degree of compliance in order to identify a possible pattern concerning compliance issues. As a result, the research question of this thesis is as follows:

Is the level of corruption a significant factor in the non–compliance of countries, in the CITES international agreement?

**Sub–questions**

- What is the level of corruption of each country?
- How have the countries translated the international commitments into their domestic level playing field –degree of compliance–?

## 1.4 – Practical– and academic relevance

To begin with the practical relevance; it is relevant to discuss the additional value for society. Society can be interpreted in a broad sense and could include involved organizations and governments, as well as the involved species. In addition to the practical relevance, this thesis is academic relevant as it fills a 'literature gap' concerning this topic.

### 1.4.1 – Practical relevance

This study examines if corruption is a significant singular–factor in affecting the compliance of countries with the Convention. If it turns out to be significant in singular nature, this indicates scientific proof on a factor that causes problems concerning the Convention's compliance. This could result in recommendations about the introduction of measures to combat corruption in order to overcome the issues with the implementation of the CITES regulations by the countries. The recommendations could have significant value as they could lead to an effective Convention ensuring that endangered species will no longer be affected by international trade.

### 1.4.2 – Academic relevance

The literature review will show that the concepts of the Convention, compliance and corruption have been studied quite frequently. However, this thesis studies those concepts more extensively. No matter what the outcome is, corruption as a singular factor in nature significant or insignificant, it a relevant topic to research which could result in useful theoretical insights.

Other studies have mainly analyzed the effects of corruption in combination with other factors or have analyzed corruption only linked to a single Paragraph of CITES Article VIII. What has not been done yet is a specific study on what the effect of corruption on the compliance regarding the whole Article VIII. The study therefore focuses on this specific relation and it contributes thus to this missing link in the literature.

## 1.5 – Reading guide

**Chapter 1**
This study started with introducing the subject in chapter one. It included in addition the problem indication. It was followed by stating the research question and the sub-questions. Finally, the practical– and academic relevance of the study were mentioned.

**Chapter 2**
The second chapter consists of the literature review and the theoretical framework. The theories, combined with prior knowledge of the literature review, help to specify the concepts of the key variables.

**Chapter 3**
Chapter three provides a closer look on what the variables of the study are and what hypothesis can be formulated.

**Chapter 4**
The fourth chapter describes the design of the study. It mentions why the co–variational analysis (COV) is the proper method to use. Additionally, it includes the selection of cases. The chapter closes with the research method to collect data.

**Chapter 5**
The operationalization in chapter five consists of the process of linking abstract concepts to potential concrete observations. In order to give a clear overview of all indicators, they are visualized in a diagram. Afterwards, the reliability and validity of the study are discussed.

**Chapter 6**
Chapter six includes the results concerning the operationalized variables.

**Chapter 7**
Chapter seven analyzes if a relationship exists between the two variables and what the nature is of the relationship.

**Chapter 8**
Finally, the study closes with chapter eight presenting the conclusion and discussing the aspects of further research, limitations and policy implications.

# 2 – Literature review and theoretical framework

Ch. 2 presents the literature review and the selection of theories. Theory provides guidelines to identify which concepts are the 'key variables'. In combination with prior knowledge of the literature review, theories help to specify the concepts of the key variables (Blatter and Haverland, 2012:pp.54–62).

Section 2.1 begins with the literature review and contains both literature gaps and a brief introduction to theory. The next section reflects on the theoretical bridge made and discusses the main theory. The key concepts are identified in section 2.3. The chapter closes with two additional theories about the identified key concepts.

## 2.1 – Literature review: CITES, compliance and corruption

The purpose of the literature review is twofold. Firstly, it attributes to the explanation of gaps in literature concerning the key concepts of: the Convention, compliance and corruption. Secondly, it introduces possible theories. The end of the literature review cites a study by Ferraro (2005), in which he assesses the three key concepts combined and mentions a couple of theories of relevance in this field. The review concludes with some final remarks on the chapter.

### 2.1.1 – Literature review: Convention issues

**Ambiguity language**

Heppes and McFadden (1987:pp.243) mention that the ambiguity of the language of a treaty is a serious issue. The Convention defines for instance a 'specimen' as: "*[a]ny readily recognizable part or derivative.* (1987:p.243)". What is not further specified is the concept of 'recognizable'. What is recognizable (?); can be interpreted differently by the countries. While some countries simply lack the expertise to answer this question, others deliberate do not recognize certain species. As a consequence, large quantities are traded outside the framework of the Convention. The information indicates that serious problems can arise because of the ambiguity nature of the treaty language.

The ambiguity problem is as well studied by Favre (1987:p.247). He identifies four so–called tension points that emerge because of the vagueness of the treaty, they are: the listing of species, the delisting of species, what 'readily recognizable' species are (?) and the process of granting permits. The tensions points arise during the implementation process of the different countries in which each country possesses a different attitude in interpreting and implementing these aspects. For instance, countries can display a protective attitude towards species, or countries may seek to pursue their economic self–interest and thus minimize the protection of a species.

### 2.1.2 – Literature review: CITES and compliance

**Shortage of personnel**

Heppes and McFadden (1987:p.237) mention in compliance issues that while the structure of the Convention is quite solid, there still are some serious problems. Firstly, the impact of CITES is affected severely because some countries are inadequate in enforcing the Convention. For instance, some countries lack the capacity to develop the right infrastructure. Furthermore, the inspections show that there is an egregious shortage of personnel concerning the import and export of wildlife.

A study of the WWF even shows that the United States experience severe problems with the lack of capacity in, for example, the field of the import of psittacines[3]. The shortage of personnel was considered as being one of the major contributing factors to the illegal importing of over 60.000 birds into the U.S. in one year (Dixon, 1986:p.1).

[3] Psittacines include parrots, macaws, cockatoos and parakeets (Heppes and McFadden, 1987:p.237)

Furthermore, the issue proves as well to be more problematic in countries with limited economic resources. For instance, the national customs inspectors in Argentina lack both time and manpower to properly conduct their duties (Heppes and McFadden, 1987:p.238).

**(Non–)Compliance with Article VIII CITES, Paragraph 6: record–keeping and reporting**
Heppes and McFadden (1987:pp.232–233) as well point out issues with Article VIII of CITES, Paragraph 6, regarding the inadequately level of record–keeping and reporting responsibility by countries. A crucial aspect of the Convention is the detailed and accurately reporting and record–keeping of the transactions between countries. The Secretariat is otherwise unable to identify any suspicious transactions that may call for further investigation. Secondly, it is important for the updating of the CITES lists of species and to gauge the effectiveness of the Convention. Lastly, it helps to solve any discrepancies among parties in their interpretation of the treaty.

Investigations within the European Economic Community (EEC), backed up by the WWF (1986:pp.10–12), showed that this issue is quite problematic. Among the EEC–nations lots of non–compliance were detected, as in France where the record–keeping and reporting were being considered as 'disorganized and incomplete'. In general, the WWF concludes that most of the EEC–countries do not comply with the rules. Annual reports were failed to be submitted and information was often missing in the reports, severely affecting the effectiveness of the Convention.

**(Non–)Compliance with Article VIII CITES, Paragraph 7: annual– and biennial reports**
In addition to the issue with non–compliance, Reeve (2006:pp.882–885) deals with problems regarding the annual– and biennial reports to be implemented by the countries. While her study is about monitoring– and compliance role of the CITES Secretariat as well, she specifically focusses on the compliance of the countries. In assessing the compliance of the countries, she researches two reports that countries need to provide. These reports are: the annual report with information on permits and certificates granted and the biennial report with information on legislative–, regulatory– and administrative measures to be taken by the countries to enforce the treaty. The problems with these reports strengthen the non–compliance attitude of countries for two reasons. Firstly, the annual reports of countries are unreliable and thus affecting the effectivity of CITES decision–making. This is because the decision–making is dependent on the information coming from these reports, which when show to be unreliable will therefore affect the decision–making. Secondly, Reeve states that the biennial implementation reporting has virtually been moribund. This lack of biennial reporting makes the information of national implementation and enforcement of the Convention patchy.

**Latin American compliance**
As aforementioned, Fuller et al. (1987:p.293) presented the strategies used by Latin American countries to control the IWT by implementing IWT laws. With examples drawn from the cases Argentina, Bolivia and Mexico, multiple obstacles are identified affecting the compliance of these countries.

In Argentina some serious issues are identified by the 'Direccion Nacional de Fauna Silveste', the authority responsible for the regulation of IWT. The following factors affect the compliance: underfunded, understaffed and lack of resources to patrol the borders. The factors result from economic reforms and foreign debts, which led to large cutbacks in federal workers. Another factor is the lack of cooperation, while good communication is essential in arranging the flows of information. Annual export quotas and other rules are not being fully communicated, reducing the effectivity of the process and affecting the nation's compliance with the Convention (Fuller et. al, 1987:p.297).

The Bolivian agencies, responsible for the IWT laws implementation, are affected by a rapid personnel turnover. As the new staff is not provided with the proper trainings, they are lacking in expertise. As a consequence, none of the staff is trained at the level of a professional wildlife biologist. Moreover, the Bolivian government is incoherent concerning

which decrees and resolutions are in effect. This is also problematic for the enforcement and the nation's compliance is therefore affected (Fuller et. al, 1987:p.300).

Mexico's difficulties stem from various geographic–, political– and economic factors, as well as some vagueness in responsibilities division. A geographical factor, because the extensive borders with the U.S. and Guatemala and Mexico's are positioned in the international waters, the Mexican government needs to make choices cause of limited resources. This results in very few inspectors that are proper trained for controlling the ports. Political- and economic factors are about the presence of corruption issues in the country. Mario Ramos, chairman of the Mexico's Instituto Nacional Investigacionis Sobre Recursos Bioticos (INIREB) mentions that: *"[y]ou can get anything you want in or out of the country for the right price.* (Fuller et al., 1987:p.307)". The vagueness in responsibilities affects the implementation process. The absence of a single, lead body in the country, results in the existence of multiple, Mexican agencies in which it is unclear who is responsible for what (Fuller et al., 1987:p.307).

Concluding that in the case of these three specific cases, various problems contribute to the compliance issues of these countries. Identified difficulties range from: lack of expertise, lack of funding, communication issues, corruption, lack of personnel, debts and institutional problems.

### 2.1.3 – Literature review: Corruption

The study of Fuller et al. (1987:p.307), addressed that the non–compliance of Mexico partially is the result of corruption among officials. Nevertheless, the relationship between corruption and the CITES international agreement is not often been studied. Most of the studies link corruption with the illegal IWT aspect instead of the Convention.

**Illegal international wildlife trade**

Rosen and Smith (2010:pp.24–27) conducted a study on illegal IWT and provided a thoroughly description on the illegal IWT concept using twelve years of seizure records of Trade Record Analysis of Flora and Fauna in Commerce (TRAFFIC). It turned out that Southeast Asia is a geographical hotspot, based on 967 seizure records. Illegal IWT has been fueled by the enforcement problems that many governments face. Factors influencing these challenges are: remoteness of areas of poaching, lack of infrastructure, corrupt officials and more. It shows that while corruption is not the only factor, it proves to be a problem in the concept of illegal IWT.

Another study is Hemley (1994:pp.36–37), in collaboration with the WWF, who works on a CITES sourcebook. The study includes the full text of the convention and an overview of all the species listed in the treaty appendices. He describes two species under the Proboscidea order, or the more well–known names of the Asian– and African elephant. These species experience a devastating ivory trade, resulting in dramatic declines in the 1970s and 1980s. In the 1970s there were around 1.2 million African elephants, which declined by half by 1994. Poaching was acknowledged as one of the main factors contributing to this decline in the 1970s and 1980s. This phenomenon occurred for various reasons, namely: the availability of automatic weapons in some parts of Africa, unstable economies and political corruption.

The previous studies show that while there are many other factors, corruption remains a re–occurring issue contributing to the problems concerning illegal IWT.

### 2.1.4 – Literature review: Ferraro, Smith & Walpole and the IEG World Bank

Previous subchapters of the literature review showed a variety of areas that were investigated when it comes to IWT and the Convention. They stress aspects of problems with the treaty itself, as well as problems with compliance and corruption. However, research combining the three aspects is limited. The closest that comes is an article by Ferraro (2005:pp.257–259), it includes an overview of the issue based on a study of Smith and Walpole (2005:pp.251–256) and followed by a critical assessment using other studies. In

addition, he used some important information from the Independent Evaluation Group World Bank (IEG World Bank) (IEG World Bank, 2005:p.9).

Ferraro (2005) works with the study of Smith and Walpole (2005) as base in order to show that further research is needed to explain the correlation between corruption and conservation. Important to note, he keeps these conservation outcomes quite general. Therefore, this thesis focusses on the CITES international agreement conservation outcomes in specific. Concerning the study of Ferraro (2005), he points out various reasons why the research on this topic is limited. First reason is the complexity of the relationship between the concepts and therefore no progress has been made by researchers. He mentions that the biologists in this field work in isolation, while they should be working together with economists and political scientists. These disciplines offer better theories and are higher trained in conducting these kinds of studies. Secondly, although corruption could be seen as a factor affecting conservation outcomes, this finding should be investigated more extensively.

Ferraro (2005) shows some great interest in studies of Smith and Walpole (2005) and the IEG World Bank (2005). This is because the relationship between corruption and conservation was in the previous years an under–studied subject, until Smith and Walpole began to focus on the issue. They found out that corruption had already been investigated multiple times in relation to economic outcomes. However, the topic appeared to be under–investigated in relation to conservation outcomes. Although, it was a new field, it was possible to draw theoretical insights from the economic field because the biodiversity field is basically a representative of a larger class of contexts. It made it possible as well to draw some information from the economic field of the IEG World Bank (IEG World Bank, 2005). The IEG World Bank collects data concerning multiple governance indicators by combining numerous internal– and external indicators.

The finding of Smith and Walpole (2005) about the lack of insights from a biodiversity perspective, stimulates Ferraro (2005) to come up with two theories he regards as good ones in the field of biodiversity/conservation. The first is a theory of Fredriksen et al. (2003) that links corruption with the stringency of environmental U.S. laws. A second theory is the theoretical model of Damania (2002). Damania's model demonstrates that if there is a potential for corruption, this potential is able to impede the control–role of environmental regulators.

The overview provided by Ferraro discusses many points of interest that are the basis for this thesis. It shows the necessity for further research in the field and it provides insights in potential theories.

### 2.1.5 – Concluding remarks of literature review

The purpose of this literature review was twofold. First, to show the many aspects studied around the subject and how each of these aspects have been studied –the literature gap–. Secondly, to introduce potential theories.

Some research focused merely on problems with the Convention itself. The ambiguous language of the treaty proved to be quite problematic. The countries interpret the language differently and in line with their own attitude.

A lot of research has been conducted concerning compliance with the Convention. However, this kind of research appears to be quite limited. Some only focus on the capacity problems of countries, some only focus on a country's compliance with a certain Article and Paragraph of the treaty, or some only study a specific geographical area.

Moreover, a frequently studied topic is corruption. However, it turns out that corruption is an under–studied subject in the biodiversity/conservation field. While it has often been researched in relationship with the illegal IWT form, this only represents a part of the field. The overview of Ferraro is therefore quite important as he stresses two theories and the necessity of further research.

*The literature review shows to be quite fragmented, section 8.1 reflects in the 'take home message' on this issue.*

## 2.2 – Theory: Damania's et al. corruption and regulatory compliance

### 2.2.1 – Theoretical bridge: Ferraro and Damania's theory

Ferraro (2005) introduced a theoretical bridge by providing two theories of interest in the biodiversity and conservation field.

The first one is from Fredriksen et al. (2003). They linked corruption to the stringency of environmental U.S. laws. The theory is not further used in the study because it does not align with the topic.

The second theory he proposed is a theoretical model of Damania (2002). The model focuses on the fact that environmental compliance in relationship with corruption has largely been neglected by most researchers. He therefore analyzes the problem in a case of pollution control in a corrupt bureaucracy. The model provides two choices for policy makers. These choices include one with stringent environmental regulations, but with a higher chance for corrupt behavior and one with greater enforcement, but with increased compliance costs.

Despite it being an interesting theory, it misses some linkage with treaty compliance in combination with corruption. Nevertheless, the researcher Damania remains an interesting person, as two years later he produced a new theory that can be used to study the corruption–compliance relationship.

### 2.2.2 – Main theory: Damania's et al. corruption and regulatory compliance theory

Damania et al. (2004, p.363), focus in their research on the reasons why corruption and policy distortions tend to co–exist in certain kinds of governments. Their research is conducted on a different level than this study intends to do. It is possible, though, by using the Principal–agent theory to translate the domestic level of Damania's et al. (2004) theory to the international level of this study. The attention of Damania's et al. (2004:p.363) study is put on a firm's –agent– level of compliance with the environmental regulations created by the government –principal–. They found that in countries where the monitoring and enforcing of the compliance is weak, the level of corruption is more pervasive. The agent and principal of Damania's et al. study are in this study respectively converted to countries and CITES.

As they discuss multiple sets of equations across a various sets of subjects, the 'Compliance equation/model' is the most relevant and interesting one (Damania et al., 2004:p.374). *In Fig. 1 this equation is indicated by the red arrow*.

$$
\begin{aligned}
&\mathrm{POLSTAB_i} = \mathbf{x_i'}\boldsymbol{\alpha} + \alpha_1 \mathrm{JUDICIALEFF_i} + \alpha_2 \mathrm{CORR_i} + \varepsilon_i,\\
&\mathrm{JUDICIALEFF_i} = \mathbf{y_i'}\boldsymbol{\beta} + \beta_1 \mathrm{POLSTAB_i} + \beta_2 \mathrm{CORR_i} + \phi_i,\\
&\mathrm{CORR_i} = \mathbf{z_i'}\boldsymbol{\gamma} + \gamma_1 \mathrm{POLSTAB_i} + \gamma_2 \mathrm{JUDICIALEFF_i} + \varphi_i,\\
&\mathrm{COMPLIANCE_i} = \mathbf{a_i'}\boldsymbol{\delta} + \delta_1 \mathrm{POLSTAB_i} + \delta_2 \mathrm{JUDICIALEFF_i}\\
&+\delta_3 \mathrm{CORR_i} + \xi_i,
\end{aligned}
$$

**Figure 1: Compliance equation/model (Damania et al., 2004:p.374)**

The key concepts in the compliance equation are POLSTAB (level of political stability), JUDICIALEFF (degree of judicial efficiency or enforcement in the country) and CORR (degree of corruption). Each of these key concepts has its own equation in order to determine its value and to come eventually to the final 'Compliance equation' (Damania et al., 2004:p.374). Before making any conclusions on the compliance equation, first the concepts need each to be clarified.

The POLSTAB key concept is defined as measuring measurement of the perception of the chance that a government in power will be destabilized or overthrown (Damania et al., 2004:p.389).

The JUDICIALEFF key concept measures to what extent 'agents' have confidence in the rules of the society (Damania et al., 2004:p.389).).

The CORR key concept, as described by the International Organization (IO) Transparency International, is the level of perceived corruption in the public sector (Damania et al., 2004:p.389).

The results of their analysis present that corruption is the only significant variable in the model, in both developed– and developing countries. It showed that when the level of corruption is lower, an increase occurs in the degree of the compliance of regulations.

Furthermore, the first two concepts cannot thus be considered as 'key concepts'. The JUDICIALEFF concept turned out to be insignificant in the equation/model. The POLSTAB concept showed to be only of indirect, positive influence on the degree of corruption. As a result, the CORR concept is the only direct significant key concept and it is therefore the main variable in establishing the degree of compliance (Damania et al., 2004:pp.378–383).

## 2.3 – The key concepts

The prior knowledge and discussed theories take into account, it is important to clarify what the key concepts are.

The first key concept is the degree of compliance. It is frequently used in the corruption and regulatory compliance theory and it showed to be of significant importance in relation with other concepts.

It turned out that the level of corruption is the only direct significant concept when it comes to determining the degree of compliance.

The concept that does not appear to be important is the degree of judicial efficiency or enforcement in a country. The results of the equations/models showed an insignificant effect concerning the concept of degree of compliance. As a result, this concept is not relevant to take into further consideration.

The last concept to deal with is the level of political stability. It showed to be only of indirect positive influence concerning the level of corruption. Because it did not appear significant in relation to the degree of compliance, it is not acknowledged as a key concept and therefore not taken into further consideration as a variable.

## 2.4 – Theories key concepts: Chayes and Chayes' compliance & Treisman's corruption

In the next section are theories provided on the key concepts of compliance and corruption.

### 2.4.1 – Theory key concept compliance: Chayes and Chayes' compliance theory

In general, compliance can occur in two forms: either a country complies or a country does not comply. The literature review has shown that non–compliance occurs in various forms. Theory is therefore required to divide non–compliance into multiple forms. In order to theoretically categorize the diverse aspects is the research of Chayes and Chayes (1993) used.

Chayes and Chayes (1993:pp.187–197) discuss two broad divisions of non–complying behavior which can be categorized into four aspects. The two broad divisions are: a country can either deliberate violate international agreements, or do it undeliberatly. Deliberate violate behavior comprehends one out of the four total aspects, while non–deliberate behavior comprehends the remaining three aspects.

**Deliberate violate behavior**

The first aspect of non–complying behavior is the "deliberate violate behavior" of international agreements. This aspect is based on a realist perspective of a state in which the decision whether to show non–compliance or compliance behavior is based on a cost and benefit

analysis. This behavior can occur if circumstances of the original bargain have significantly changed or when a country has little intention to carry out the international agreement. These kinds of intentions are based on preferences of a domestic or international constituency (Chayes and Chayes, 1993:pp.187–188).

**Non–deliberate violate behavior**
The second aspect can be attributed to the ambiguity and indeterminacy of treaty language. Treaty language can include general and specific rules. Logically, the broader and general the treaty language is, the more it is sensitive to a wide variety of interpretations. Still, during the drafting treaties it is impossible to foresee all possible applications and contextual settings. Therefore, treaties are usually written in general and as a result, each party can interpret the rules in line with its own interest. If a treaty is written to specifically, it is vulnerable to the so–called: "*[e]xpressio unius est exclusion alterius* (Chayes and Chayes, 1993:p.189)". It means that when one thing is expressed, another thing will be excluded (Chayes and Chayes, 1993:pp.188–189).

The third aspect is about the possibility that countries are not able to carry out the undertakings of the treaty due to limitations in capacity. Although, there could be political will, implementing international regulations requires more than that. The capacity to do this effectively includes several aspects, for instance: choices to be made, scientific– and technical judgement and bureaucratic– and fiscal resources. With many existing other treaties and future responsibilities, it could be difficult from time to time to show the prescribed behavior (Chayes and Chayes, 1993:pp.193–194).

The last aspect on non–violate non–complying behavior is the temporal dimension of social– and economic changes considered by the treaties. Changes of conditions and circumstances over time require shifts in regulations and instruments of treaties. This asks for a transit–period of members as an immediate response is not possible. To conclude, significant social– and economic changes could result in delay concerning compliance with international agreements (Chayes and Chayes, 1993:p.195).

### 2.4.2 – Theory key concept corruption: Treisman's corruption theory

The concept of corruption is very broad and theoretical categorization is therefore necessary. The categorization of corruption is based on research of Treisman (2000).

Treisman defines corruption as a misuse of public affairs for private gains which occurs more frequently and extremely in some countries than in others. While there are theories about corruption and case studies have been conducted concerning the details of corruption, there is little known about the reasons that explain why corruption is higher in a specific place than somewhere else. Although, progress is made by indexing 'perceived' corruption, it is argued that this is rather a subjective approach. It is therefore interesting to examine the theoretical patterns concerning the presence and absence of corruption. To assess the explanatory power of the theories of causes of corruption ,Treisman uses the corruption index prepared by Transparency International (2000:pp.399–400).

While Treisman remains cautious with his findings, his analysis suggests five strong arguments about the causes of corruption and a sixth slightly weaker cause (2000:p.401). Each of these findings will briefly be discussed and finally one argument will be chosen to function as a categorization scale for corruption.

**Six arguments about causes of corruption**
A first finding of Treisman (2000:p.439) is that a strong predictor of low levels of corruption is the percentage of Protestants present in the population. It has been proven to have a significant positive effect on the economic development and the stability of a democracy. Some suggest it is due to the greater tolerance of this society.

A second finding of significant influence on the level of corruption is colonial heritage. British colonies have proven to perceive lower levels of corruption due to British legal culture of administering and enforcing in a particular way. (Treisman, 2000:p.440).

The third one can be found in the presence of democracy. Although, the current presence of democracy seems to have no significant effect on how corrupt a country is, it does matter how long democracy exists in a country. Countries with at least 40 years of consecutive democracy appear to have lower levels of corruption than countries with a consecutive democracy of 20–30 years (Treisman, 2000:p.440).

A fourth significant effect is one in where countries with a federal nature appear to be less corrupt than unitary countries. This is based on the level of economic development rather than ethnic composition. However, Treisman itself questions whether this economic interpretation is a correct one (2000:pp.440–441).

The last strong finding is the significant evidence that the process of economic development reduces the level of corruption. Countries with more developed economies have higher quality governments which result in a lower perceived level of corruption (Treisman, 2000:pp.401–440).

Finally, Treisman states that openness to trade may reduce corruption. He acknowledges that this finding is weaker compared to the others because it is hard to determine the direction of the causation (2000:p.401).

**Linkage with prior knowledge: Ferraro**

Evaluating the theory of Treisman (2000), some findings are quite surprising and unconventional. For instance, the unusual argument about Protestants is unsuitable for a categorization scale. It is therefore relevant to take the literature review of this thesis into account which includes how other researchers have dealt with the concept of corruption. This brings us to the study of Ferraro (2005) in which he suggests that the economic field is important in deriving theories for the biodiversity/conservation field. Out of the findings of Treisman (2000), the factor about the ‘state of economic development in a country’ represents this argument the best.

**‘State of economic development’ in detail**

Treisman categorizes ‘the state of economic development in a country’–scale into three categories, namely: developed, transition or developing economies. However, the United Nations (UN) considers these categories as being broad (2014:p.143).

A more detailed categorization–scale of level of corruption is needed, which will be based on the indicator used by Treisman for the ‘state of economic development in a country’. The ‘Gross Domestic Product Purchasing Power Parity (GDP PPP) per capita’[4] represents the one indicator used to determine the state of the economy in a country (2000:p.413). In order to get a more detailed categorization–scale, the ‘GDP per capita, PPP (current international $)’ dataset of the World Bank is used. This ranking includes a more specific division for the GDP/PPP. It results in the next six counting categorization–scale for corruption: high income, upper middle income, middle income, low & middle income, lower middle income and low income (World Bank, 2016). In line with the evidence of Treisman, it means that in a country with a ‘high income’ category, the population perceives a lower level of corruption.

[4] GDP PPP is defined as the converting of the Gross Domestic Product into international USD, using the Purchasing Power Parity rates (NationMaster, 2017).

# 3 – Variables, hypothesis & conceptual model

The previous chapter outlined two concepts as the main ones of the study. The literature showed that more factors could be identified, though, in affecting the compliance of countries. Due to time– and resource limitations, it is not possible to consider all of them. Only one main independent X variable and one main dependent Y variable are thus established. In the hypothesis that follows, a plausible negative– or positive relationship is created.

Section 3.1 begins with introducing the two variables and is followed by creating a hypothesis. Next in section 3.3, a conceptual model is provided to visualize the hypothesis. The chapter closes with an introduction to the control variables.

## 3.1 – Independent X– and dependent Y variable

In the relationship between the variables X and Y are two matters important, namely: the direction and the strength of the relation. Before the relationship is assessed, the two variables need to determined (Verschuren and Doorewaard, 2010:p.281).

The 'corruption and regulatory compliance theory' provided two concepts that can be converted into variables. The two concepts are the degree of compliance and the level of corruption.

**Dependent Y variable**
The Y variable is the translation of international commitments into domestic laws. In other words, the degree of compliance of each country with the responsibilities of the Convention.

**Independent X variable**
The X variable is the level of corruption of each country.

## 3.2 – Hypothesis

The theory of Damania et al. (2004) provided a relationship between the two previously mentioned variables. It functions as well as a guideline for the hypothesis.

**Null hypothesis**
H0: There is no connection between the degree of compliance of the CITES international commitments and the level of corruption of a country.

**Alternative hypothesis**
H1: The lower the level of corruption of a country the higher the degree of compliance with the CITES international commitments is.

## 3.3 – Conceptual model

The conceptual model visualizes the hypothesis into a graphical image; it enables to oversee the relationship at once. The conceptual model provides a schematic image of how a part of the reality works. It consists of two elements, namely: a collection of the key concepts with reference to some real phenomena and a collection of relations between those key concepts. The nature of the hypothesis results in a conceptual model with a direct effect between the two variables (Verschuren and Doorewaard, 2010:pp.279–283).

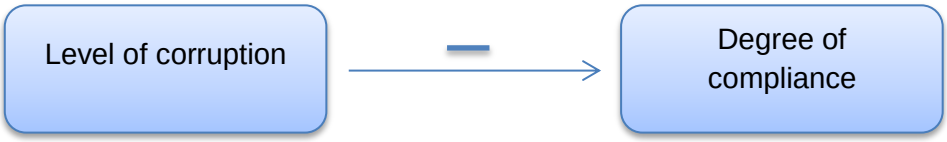



**Figure 2: Conceptual model (based on Ch. 3.2)**

Verschuren and Doorewaard (2010:p.281) discussed that a relationship contains both a direction and a certain strength. In Fig. 2 is a negative direction identified between the two variables. When the value of one variable drops, the value of the other variable will increase, and vice versa.

While theoretically a negative relationship is identified, it does not necessarily mean the same in reality. When the level of corruption drops, the hypothesis expects an increase of the degree of compliance. It is therefore important to assess the strength of the relationship as well.

## 3.4 – Control variables

In the Co–Variational Analysis –*elaborated next chapter*– it is important to establish control variables. The purpose of the control variables is to establish similar characteristics in the selected cases. Not all variables can be included and it is therefore important to select only the relevant ones (Blatter and Haverland, 2012:p.54). With many combinations possible, the next selection is chosen:

**Control variable 1**
The country was a member of the Convention, before the 2010–2013 period studied.

**Control variable 2**
The chosen country is involved in illegal IWT and shows therefore affinity with the subject.

**Control variable 3**
The chosen country is involved in legal IWT and shows therefore affinity with the subject.

# 4 – Study design: Co–Variational analysis, selection of cases & research design

Chapter four discusses the study design, composing of the COV method, the selection of cases and the research method.

Section 4.1 begins with the COV method, it introduces the concept and it justifies why it is a suitable approach. Next in section 4.2 an overview is provided of the outcome of the selected cases in combination with the control variables. The choices to reach this outcome are discussed in the following section. The final part includes a reflection on the research method.

## 4.1 – Co–Variational analysis (COV)

### 4.1.1 – COV method

The COV method is conducted in small–N research designs and it presents empirical evidence on the existence of co–variation between a X– and Y variable. The method is designed to examine whether specific features in the reality make a difference and it assesses if these specific features produce a significant effect or not. The COV method attempts to provide answers by comparing different cases between each other. It systematically compares different cases with variation in features –the X variable– to variation in potential effects –the Y variable–. In other words, if the score of the X variable is different, the Y variable representing the outcome is different as well (Blatter and Haverland, 2012:p.33–37).

In applying the COV method, it is necessary to meet certain research criteria. First, the research needs to be a small–N case study and second, the research needs to meet the criterion of systematically comparing a X variable to a Y variable. Blatter and Haverland (2012:p.63) argue that a typical medium–N case study consists of twenty to fifty cases. A study with a number of cases below twenty can thus be reckoned as a small–N case study. This study selected nine cases to compare with each other. As nine cases are below the twenty, the criterion of small–N research is fulfilled. The second criterion of the COV method is the systematically comparing of a X variable to a Y variable. Both variables of the X and the Y are defined in Ch. 3.1 and the criterion is thus fulfilled as well.

### 4.1.2 – Case selection

The COV method does not allow a random selection of cases. The cases need to be deliberately chosen in order to control them. The criterion of deliberately chosen argues that cases have to vary in the score of the independent X variable, but the cases need to have similar values in the control variables at the same time. The corresponding method is called the ‘comparable cases’ strategy. Only when the two criteria are fulfilled, it is possible to examine causal inferences on basis of observed co–variation. The selection of cases through the comparable cases strategy solves the issue of selection bias (Blatter and Haverland, 2012:p.38–43).

- Independent X variable: Level of corruption
- Dependent Y variable: Degree of compliance
- *Control variable 1*: The country was a member of the Convention, before the 2010–2013 period studied
- *Control variable 2*: The chosen country is involved in illegal IWT and shows therefore affinity with the subject
- *Control variable 3*: The chosen country is involved in legal IWT and shows therefore affinity with the subject

### 4.1.3 – Method of comparison

The method of comparison entails a variety of options, as shown in Table 1.

| | Spatial variation | | |
|---|---|---|---|
| Temporal variation | | Yes | No |
| | Yes | Cross–sectional–intertemporal comparison | Intertemporal comparison |
| | No | Cross–sectional comparison | *Counterfactual comparison* |

**Table 1: Modes of comparison within the COV – Variation independent variable (Blatter and Haverland, 2012:p.44)**

A spatial variation is defined as variation across cases at the same time period. A temporal variation means a comparison of the situation(s) before and after a change in the score of the independent variable (Blatter and Haverland, 2012:p.44).

Out of the four options represented in Table 1, the cross–sectional comparison is the only feasible option in this study. The temporal variation compares situations of two different time periods, which is not the method corresponding with the assessment of the corruption–compliance relationship. As a result, the options comprehending temporal variation can be ruled out, namely: the intertemporal– and cross–sectional–intertemporal comparison (Blatter and Haverland, 2012:pp.45–46). Blatter and Haverland define cross–sectional comparison as variation across cases at the same time period (Blatter and Haverland, 2012:p.44). With nine cases compared to each other over a certain time period, this method suits the assessing of the corruption–compliance relationship the best. Therefore, it rules out as well the counterfactual comparison as remaining option.

## 4.2 – Overview: Where, when, who and what?

| Selected cases | Control variable 1 | Control variable 2 | Control variable 3 | Independent variable of interest – X | | Dependent variable – Y |
|---|---|---|---|---|---|---|
| | *Country is a member of CITES <2010* | *Country is involved in illegal IWT 2010 – 2013* | *Country is involved in legal IWT 2010 – 2013* | *Level of corruption, on average 2010 – 2013* | *GDP/PPP scale* | *Degree of compliance* |
| **Myanmar** | Yes | Yes; *key country* | Yes | 16.25 | | |
| **Kenya** | Yes | Yes; *key country* | Yes | 24.25 | | |
| **Vietnam** | Yes | Yes; *key country* | Yes | 29.5 | | |
| **Tanzania** | Yes | Yes; *key country* | Yes | 31.25 | | |
| **India** | Yes | Yes; *key country* | Yes | 34 | | |
| **Thailand** | Yes | Yes; *key country* | Yes | 35.25 | | |
| **China** | Yes | Yes; *key country* | Yes | 37.5 | | |
| **South Africa** | Yes | Yes; *key country* | Yes | 42.75 | | |
| **Hong Kong** | Yes; *dependent territory* | Yes; *key country* | Yes | 80 | | |

**Table 2: Overview selected cases in relation to the variable scores (based on Ch. 4.3)**

The COV method suggests that selected cases need to have similar values in the control variables and different scores across the independent X variable. Two columns in Table 2 remain empty, because the values of the dependent variable and the 'GDP/PPP categorization–scale' are determined in the end of the study. The next step is to clarify how the values of the control variables are determined.

## 4.3 – Justification: Where, when, who and what?

In chronological order, the control variables 1/2/3 and the average level of corruption are discussed.

### 4.3.1 – Country is a member of CITES <2010: Control variable 1

For a country to function as a suitable case in the period 2010–2013, the country needs to be a member of CITES preceding the start of the period. A country that becomes a member during 2010–2013 produces information not covering the whole period, resulting in missing data. Table 3 presents a selection of the cases and when the countries entered the treaty into force.

| Country | Entry into force | Country | Entry into force |
|---|---|---|---|
| **Myanmar** | 11/09/1997 | Thailand | 21/04/1983 |
| **Kenya** | 13/03/1979 | South Africa | 13/10/1975 |
| **Vietnam** | 20/04/1994 | China | 08/04/1981 |
| **Tanzania** | 27/02/1980 | Hong Kong – Dependent territory of China* | |
| **India** | 18/10/1976 | | |

**Table 3: Members of the Convention (CITES, 2017b) / (CITES, 2017f)**

* According to CITES (2017f) Hong Kong is seen as both a dependent territory of China and a separate country/member of the Convention. Control variable 2 will discuss Hong Kong as being one of the key countries and it is therefore important to include Hong Kong as a case studied.

### 4.3.2 – Country is involved in illegal IWT 2010 – 2013: Control variable 2

The control variable 2, together with the independent variable –*discussed later*–, function as the main guideline in the selection of cases. The selected cases are deemed as suitable when they show affinity with the Convention. The Convention comprehends both illegal and legal form of IWT, the former is discussed in this section.

Illegal IWT is unknown in true global scale and value as not every trade flow is documented. The closest to select suitable cases for illegal IWT is to determine the key areas of illegal IWT. Key areas are high priority areas and are therefore the best documented. The key areas possess thus the most comprehensive number of information and they can therefore be considered as the best option to select cases with affinity to illegal IWT.

Patel et al. (2015) present in their study the key areas in illegal IWT. They base their research on key countries in illegal IWT flows in the fields of popular species of elephants, rhinos and tigers. They define so–called key nodes, or key countries, in networks as: key exporters, –intermediaries or –importers. The selection of six nodes, for instance, fragments the networks of elephants, rhinos and tigers to a great extent. Six nodes fragment the elephant illegal IWT network up to 89.5%, rhinos up to 92.3% and tigers up to 98.1%. Eighteen nodes for elephants, sixteen for rhinos and ten for tigers are needed to achieve a 100% fragmentation of the illegal trade flows of those species. *100% fragmentation is not possible to examine due to time limitations.*

From this point on, the selection of cases limit to the three species of elephants, rhinos and tigers. These three species are among the most popular ones of the 5,600 the Convention aims to protect. The most popular ones produce the most comprehensive number of data regarding illegal IWT, enabling to proper select suitable cases.

Patel et al. (2015) conduct their study in the time period of 2010 to 2013. Control variable 2 partly functions as the main guideline of this study; it determines the time period this study is conducted in as well.

Patel et al. (2015) retrieve their data from a program called the HealthMap Wildlife Trade. The HealthMap is an automated web–crawling surveillance system that combines official data with informal real–time media stories and reports from the public on illegal IWT seizures. The obtained data from the HealthMap is mapped by another program called Circos. Circos creates networks consisting of nodes which are joined by directed connections.

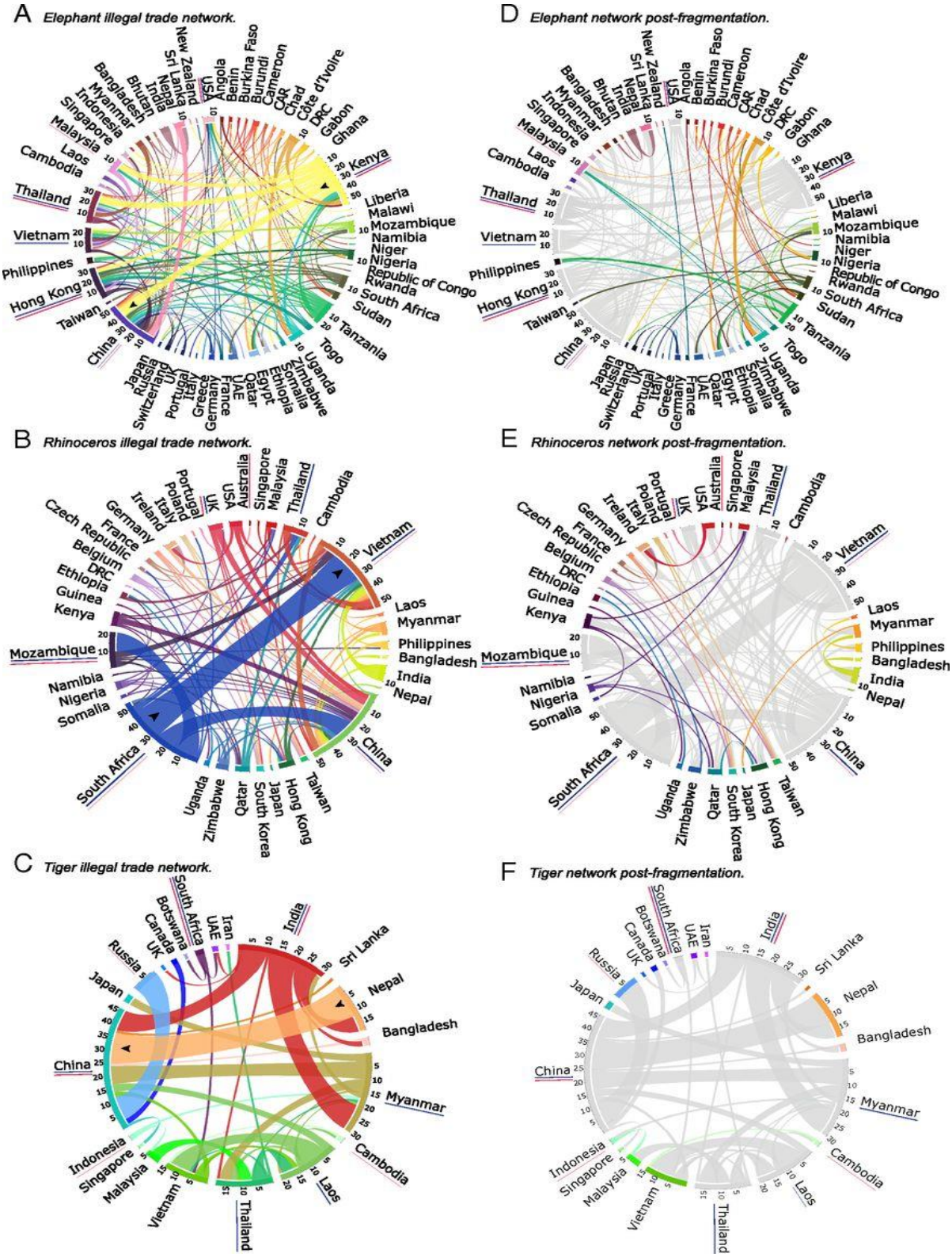



**Figure 3: Illegal wildlife trade flows 2010-2013 / Elephants, rhinoceros and tigers (Patel et al., 2015)**

The illegal IWT networks of A/B/C for elephants, rhinos and tigers show the scenario before fragmentation and the networks D/E/F show the scenario after fragmentation. The thickness of the lines indicates the number of international shipments that were made of the species. Elephants represent 232 international shipments, rhinos 165 and tigers 108.

The countries in the trade flows are characterized as key exporter, –intermediaries or an –importer. Key exporter and –importers are based on the number of shipments and the number of connections of departing from and arriving at a node. A key intermediary is identified as 'flow betweennes centrality'. Flow betweenness centrality is defined as the extent that trade flows must pass through a particular node. Patel et al. (2015) used the key player problem to identify a certain node as a key country in the network. The key player problem is defined as: *"[i]ncreasing the number of connections it takes to go from one node to another with an end point of having all of the nodes be disconnected or isolated from one another, effectively preventing consumers from connecting with illegal wildlife products sources.* (Patel et al., 2015)". The key player problem enables to convert six nodes into nine key countries. The nine key countries maximize the fragmentation of networks of elephants, rhinos and tigers to a great, but not fully, extent.

| **Elephant illegal trade network** | | |
|---|---|---|
| *Exporting countries* | *Intermediary countries* | *Importing countries* |
| Kenya | Kenya | Thailand |
| Tanzania | Thailand | China |
| | China | Hong Kong |
| | Hong Kong | Vietnam |

**Table 4: Identified key nodes/countries in elephant illegal trade network, 2010–2013 (based on Fig. 3)**

| **Rhino illegal trade network** | | |
|---|---|---|
| *Exporting countries* | *Intermediary countries* | *Importing countries* |
| South Africa | China | China |
| | Vietnam | Vietnam |

**Table 5: Identified key nodes/countries in rhino illegal trade network, 2010–2013 (based on Fig. 3)**

| **Tiger illegal trade network** | | |
|---|---|---|
| *Exporting countries* | *Intermediary countries* | *Importing countries* |
| India | India | China |
| | Myanmar | |

**Table 6: Identified key nodes/countries in tiger illegal trade network, 2010–2013 (based on Fig. 3)**

### 4.3.3 – HealthMap Wildlife Trade database vs. other programs: Why is HealthMap the most suitable one?

The HealthMap Wildlife Trade database proved to be very useful in the selection of cases in the section affinity with illegal IWT. However, other programs could be used as well. The HealthMap is still considered the best option available, though. The next review reflects on other databases and considers them to be less suitable.

**The HealthMap Wildlife Trade database**

The HealthMap is an automated digital surveillance system and the best one available. The dataset contains information on volume, frequency, composition and routes of illegal IWT, to the extent not publically available anywhere else. The HealthMap is the most suitable, because it combines both official data with informal real–time media stories and reports. Official sources included are well–known organizations as TRAFFIC, WildAid, The Coalition Against Wildlife Trafficking, WWF and the International Fund for Animal Welfare. Unofficial sources included are publically available websites, forums, mailing lists, media and blogs (Patel et al., 2015). The main function of the HealthMap is to monitor disease outbreak and

real–time surveillance of emerging threats for the public (HealtMap, 2017) and it locates in addition as well the illegal IWT (Hansen et al., 2012). The organization as well as Hansen et al. (2012) identified certain limitations of the database.

Firstly, the database is limited to nine languages and therefore it cannot include reports produced in another language than one of the nine. The limitation can be countered by the fact that it includes English and Chinses. Both languages are widely used around the globe, many reports are thus able to be included (Healthmap, 2017).

Secondly, the obtained information might stem from unofficial digital media sources and are therefore not always the most reliable kinds of information. On the other hand, the unofficial sources enable to produce an enormous number of data, while other programs fail in this aspect (Hansen et al., 2012).

**The Invasive Species Internet Monitoring System**

The Invasive Species Internet Monitoring System was initiated in 2002. The program tracked the online trade of invasive species and it searches specifically for the intertwined transactions. It generally monitors the internet sales of threatened species under CITES. The system proved to be a good concept but it missed to identify the greater picture of illegal IWT. The program only captured the internet sales and it missed the trade in other areas (Hansen et al., 2012).

**Law Enforcement Management Information System (LEMIS)**

The LEMIS program was created by the WWF in partnership with TRAFFIC. It plotted official data and captured the flows of illegal wildlife products seized upon the entry into the U.S. The LEMIS however lacked in scope compared to the Healthmap. The HealthMap covers flows worldwide and includes unofficial sources of information, the kind of information inaccessible under LEMIS (Hansen et al., 2012).

**The Tiger Tracker**

As well as LEMIS is the Tiger Tracker created by a partnership between WWF and TRAFFIC. It plotted data on seizures of tigers and its parts in the Asian continent. The Healthmap proved to be more suitable than the Tiger Tracker for it limited its scope only to monitor tigers and it did not provide sources with its information (Hansen et al., 2012).

**Save the Elephants, Freeland, Lusaka Agreement Task Force, Wildlife Direct, ASEAN–WEN Wildlife Enforcement Network, Wildlife Alliance and Interpol**

Other programs failed as well to meet the standards of the HealthMap. HealthMap includes sorts of species, location and date of seizures and therefore, it shows therefore to be more specific in monitoring trade (Hansen et al., 2012).

### 4.3.4 – Country is involved in legal IWT 2010 – 2013: Control variable 3

The selected cases are considered suitable when they show affinity with both aspects of illegal and legal IWT. The former one previously discussed, it is next necessary to prove if the nine cases show affinity with legal IWT in elephants, rhinos and/or tigers.

The illegal IWT variant is documented in various databases of which the HealthMap is the most suitable one. The legal IWT on knows one best database and is called the ‘CITES Trade Database’. This database is managed by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP–WCMC) on behalf of the Secretariat of CITES. The database consists of over 13 million records of legal IWT and it is therefore considered as one of its kind. The data stem from the Management Authorities (MAs). These organizations submit the annual reports containing the millions of records of legal trade (UNEP–WCMC, 2013:pp.3–4).

Although, the CITES Trade Database is the most suitable, it is still somewhat limited. For instance, the annual reports experience some problems. Firstly, countries might not submit the annual reports in time or they might not submit them at all. The reason that

countries do not submit annual reports is often because they experience internal problems, such as civil war or lack of personnel/resources. Secondly, countries might submit incomplete reports. The information in those reports are absent or are not elaborated enough in detail. Thirdly, the sources of information might not be included. Lastly, it is not possible to compare data to each other as countries might use different standards to collect and explain data (UNEP–WCMC, 2013:pp.4).

The CITES Trade Database includes various parameters that are needed to be set to retrieve data on the numbers of export and import of a country. The parameters of the database are: year range, exporting countries, importing countries, source, purpose, trade terms and search by taxon (CITES, 2017e). The results of the database are more interesting than the process of setting the parameters. The choices made to set the parameters are elaborated in Appendix 2 and the results are shown in Tables 7/8/9 in the main part of the study. One example of setting the parameters is provided below; it resembles Kenya as exporting country of trade in the elephant and its products.

**Elephant legal trade numbers in the CITES Trade Database**

*Kenya exporting example*

- Year range: 2010 – 2013
- Exporting countries: Kenya
- Importing countries: All countries
- Source: Captive–bred animals, captive–bred–artificially propagated, born in captivity, confiscations/seizures, ranched and wild
- Purpose: Breeding in captivity or artificially propagation, hunting trophy, law enforcement/judicial/forensic, reintroduction or introduction into the wild, circus and traveling exhibitions, medical (including biomedical research), scientific, educational, personal, commercial and zoo
- Trade terms: All terms
- Search by taxon: Loxodonta averlan (African Elephant)

| Country | Number of times exported | Number of products exported |
|---|---|---|
| *Exporting countries* | | |
| **Kenya*** | 14 | 13883 |
| **Tanzania*** | 97 | 644 |
| *Importing countries* | | |
| **Thailand**** | 3 | 45 |
| **China**** | 81 | 22801 |
| **Hong Kong**** | 14 | 698 |
| **Vietnam**** | 2 | 102 |

**Table 7: Elephant legal trade numbers per country, 2010–2013 (CITES, 2017e)**

*Parameter set at African elephant
** Parameter set at both African elephant and Asian elephant

**Rhino legal trade numbers in the CITES Trade Database**

| Country | Number of times exported | Number of products exported |
|---|---|---|
| *Exporting countries* | | |
| **South Africa*** | 371 | 3638 |
| *Importing countries* | | |
| **China**** | 17 | 117 |
| **Vietnam**** | 25 | 280 |

**Table 8: Rhino legal trade numbers per country, 2010–2013 (CITES, 2017e)**

*Parameter set at Southern White Rhino
** Parameter set at both Southern White Rhino and Northern White Rhino

**Tiger legal trade numbers in the CITES Trade Database**

| Country | Number of times exported | Number of products exported |
|---|---|---|
| *Exporting countries* | | |
| **India** | 1 | 3 |
| ***Myanmar*** | *2* | *8* |
| *Importing countries* | | |
| **China** | 31 | 57 |
| ***Myanmar*** | *2* | *8* |

**Table 9: Tiger legal trade numbers per country, 2010–2013 (CITES, 2017e)**

**Final word on control variable 3**
Tables 7/8/9 show that all countries are involved in legal IWT. Control variable 2 provided key countries in the IWT field and it was therefore only necessary to ratify that the countries were involved in legal IWT as well.

### 4.3.5 – Level of corruption, on average 2010 – 2013: Independent variable of interest

In the selection of cases it is important that countries possess similar values in the control variables and varying values in the independent variable. The cases selected, according to control variables 1/2/3, show to possess similar values and it is thus important to prove that these cases vary in score on the independent variable.

The data to establish the values of the level of corruption stem from the IO Transparency International. This IO represents a global movement with one vision of 'a world free of corruption' and it is considered as the leading organization in the fight against corruption. The organization collects data from over 100 countries and it is therefore the best option available (Transparency International, 2017a).

Transparency International creates each year an index with scores of corruption per country. The index works on a scale from 0 to 100, the former one represents a highly corrupt country and the latter one represents a very clean country (Transparency International, 2017b).

The level of corruption used in this study is established by calculating the average score over the period 2010–2013.

| Level of corruption | | | | | |
|---|---|---|---|---|---|
| *Key countries* | *2010** | *2011*** | *2012**** | *2013**** | *Average* |
| **Myanmar** | 14 | 15 | 15 | 21 | *16.25* |
| **Kenya** | 21 | 22 | 27 | 27 | *24.25* |
| **Vietnam** | 27 | 29 | 31 | 31 | *29.5* |
| **Tanzania** | 27 | 30 | 35 | 33 | *31.25* |
| **India** | 33 | 31 | 36 | 36 | *34* |
| **Thailand** | 35 | 34 | 37 | 35 | *35.25* |
| **China** | 35 | 36 | 39 | 40 | *37.5* |
| **South Africa** | 45 | 41 | 43 | 42 | *42.75* |
| **Hong Kong** | 84 | 84 | 77 | 75 | *80* |

**Table 10: Level of corruption in key countries, 2010–2013 & average (* Transparency International, 2010:pp.2–3) / (** Transparency International, 2011:pp.5–6) / (*** Transparency International, 2017b)**

## 4.4 – The how (?): research method

The COV method relies only on the scores stemming from the X– and Y variable for its data analysis. An adequate approach in collecting data is thus a crucial aspect in determining the values (Blatter and Haverland, 2012:p.63).

The needed information for the variables is collected by using the method of document analysis. Using data triangulation within this method eliminates errors of measurement and operationalization. The nature of the research is a small–N case study and it enables thus an intensive focus on a little number of cases. As a single unit is assessed by using multiple sources, any systematic bias in the measurement is corrected (Blatter and Haverland, 2012:p.63). The sources used for data triangulation origin from IOs as CITES, non–governmental organizations (NGOs) as WWF, newspaper publishers as Bangkok Post, governmental official documents and publications/research from for example National Geographic.

The method of interviews in combination with the document analysis could be beneficial for the measurement validity as well (Blatter and Haverland, 2012:p.63). It was unfortunately not possible to conduct interviews due to the difficulty of including actors with affinity to the subject and other reasons. For instance, TRAFFIC was approached in an attempt to collect information. So far they have not provided a response. The alternative method of document analysis enables sufficient numbers of information to analyze the corruption–compliance relationship.

# 5 – Operationalization

Operationalization is the process of linking abstract concepts to potential concrete observations. Indicators will be devise in order to reflect the conceptualization outlined in Ch. 3 (Blatter and Haverland, 2012:p.63). Indicators are defined as observable phenomena granting information about non–direct observable phenomena (Verschuren and Doorewaard, 2010:p.143).

Section 5.1 begins with the operationalization of the compliance variable. Next, in section 5.2, a diagram is created to identify the indicators that stem from the compliance variable. The figure allows to see at once all the indicators. The following section covers the operationalization of the corruption variable. The chapter concludes with the reliability and the validity of the study.

## 5.1 – Operationalizing compliance

The compliance indicators stem from the six following dimensions of CITES Article VIII: appropriate measures, designation of ports of exit and –entry, the creation of organs, records of trade, periodic reports and public availability (CITES, 1983). Some general information about each dimension will be provided, and followed by the identification of the related indicators and, where applicable, the subindicators and sub–subindicators

### 5.1.1 – Appropriate measures

CITES Article VII requires every member to implement appropriate measures. Appropriate measures are necessary to enforce to provisions of the Convention and to prohibit trade in case of violation. The appropriate measures dimension is composed of two aspects. The first aspect concerns the penalization of trade in case of violation of the Convention. The second aspect relates to the confiscation of an animal and allows for the return of an animal to the state of origin (CITES, 1983).

**Appropriate measures to: penalize trade**
The first aspect comprehends implementing appropriate measures to penalize certain trade. Certain violations of the Convention regarding trade or possession of threatened species need to be penalized by the involved countries (CITES, 1983).

To determine the degree of compliance with the Convention, this aspect requires one indicator and one subindicator. The indicator assesses if countries have implemented penalties. The subindicator examines the height of the penalties. The height of the penalties is an important part to analyze. When penalties are more severe, a country is expected to comply more closely with the responsibilities of the Convention.

**Appropriate measures to: provide for the confiscation or return**
The second aspect includes appropriate measures to provide for the confiscation of an animal and measures for the return of a confiscated animal (CITES, 1983).

The aspect includes one indicator: it assesses whether countries have implemented measures of confiscation and measures for the return of an animal.

### 5.1.2 – Designation of ports of exit and –entry

The Convention requires every country to designate ports of exit and –entry; those include land–based, air–based and sea–based ports. Each of which is a variant. Land–based ports check incoming busses, trucks and other land–based vehicles. The designated ports in the countries are responsible for two things. Firstly, ports need to ensure that specimens pass through all required formalities, within a minimum of delay. Secondly, ports are responsible for properly caring and minimizing the risk of injury, damage to health or cruel treatment of animals, during any period of transit, holding or shipment (CITES, 1983).

The dimension of ports of exit and –entry includes one indicator. The indicator observes which variant of the ports are created by the countries.

### 5.1.3 – The creation of organizations

Furthermore, the treaty requires that countries create a Management Authority(ies), a Scientific Authority(ies) and a rescue center(s). These organs are responsible for various tasks during the confiscation of a living specimen (CITES, 1983).

**Management Authority(ies) (MAs)**
The MAs have two functions. First, they have to return a confiscated specimen to the state of origin, a rescue center or another place considered as appropriate. Second, they must grant permits or certificates (CITES, 1983).

The aspect includes one indicator and one subindicator. The indicator observes whether a country has created a MA or not. The subindicator looks at how many MAs are created by a country.

**Scientific Authority(ies) (SAs)**
The SAs are responsible for advising the MAs and for determining whether trade in particular species is detrimental to its survival (CITES, 1983).

The aspect includes one indicator and one subindicator. The indicator observes whether a country has created a SA or not. The subindicator looks at how many SAs are created by a country.

**Rescue center**
The rescue centers look after the welfare of the living specimens, particularly the animals that are confiscated by the MAs (CITES, 1983).

The aspect includes one indicator and one subindicator. The indicator observes whether a country has created a rescue center or not. The subindicator looks at how many rescue centers are created by a country.

### 5.1.4 – Records of trade

The fourth dimension concerns the requirement to maintain records of trade. The following indicator and subindicator are crucial in analyzing the degree of compliance. The indicator observes if a country has maintained records of trade. The subindicator examines if the content of the records is complete.

The records of trade include many specifications to be maintained by the countries. The specifications require an additional number of sub–subindicators; each sub–subindicator represents one specification of the records. The sub–subindicators are: the names of exporters and importers, the addresses of exporters and importers, the number and type of permits and certificates granted, the States with which such trade occurred, the numbers or quantities and types of specimens and the names of species as included in Appendices I, II and III and, where applicable, the size and sex of the specimens in question (CITES, 1983).

### 5.1.5 – Periodic reports

CITES Article VIII stresses the responsibility of countries to provide periodic reports about the implementation of the Convention. The periodic reports occur in an annual report variant and a biennial report variant (CITES, 1983). These reports are the fifth dimension of this study.

**Annual report**
The annual reports provide a summary on the previous dimension of records of trade. Not all sub–subindicators are included: the names and addresses of exporters and importers are covered due to CITES regulations.

The aspect includes one indicator, one subindicator and some sub–subindicators. The indicator looks if a country has provided an annual report. The subindicator analyzes if the country has provided a complete annual report. The sub–subindicators divide the content of the annual reports in various units; it enables to observe if any information is missing. The sub–subindicators representing units of annual report information are: the number and type of permits and certificates granted, the States with which such trade occurred, the numbers or quantities and types of specimens and the names of species as included in Appendices I, II and III and, where applicable, the size and sex of the specimens in question (CITES, 1983).

**Biennial report**

The biennial reports contain information about the enforcement of the Convention. They look at the 'legislative–', 'regulatory–', 'compliance– & enforcement–' and 'administrative' measures taken by the countries (CITES, 1983).

The aspect includes one indicator and one subindicator. The indicator looks if a country has provided a biennial report. The subindicator analyzes if the country has provided a complete biennial report.

### 5.1.6 – Public availability

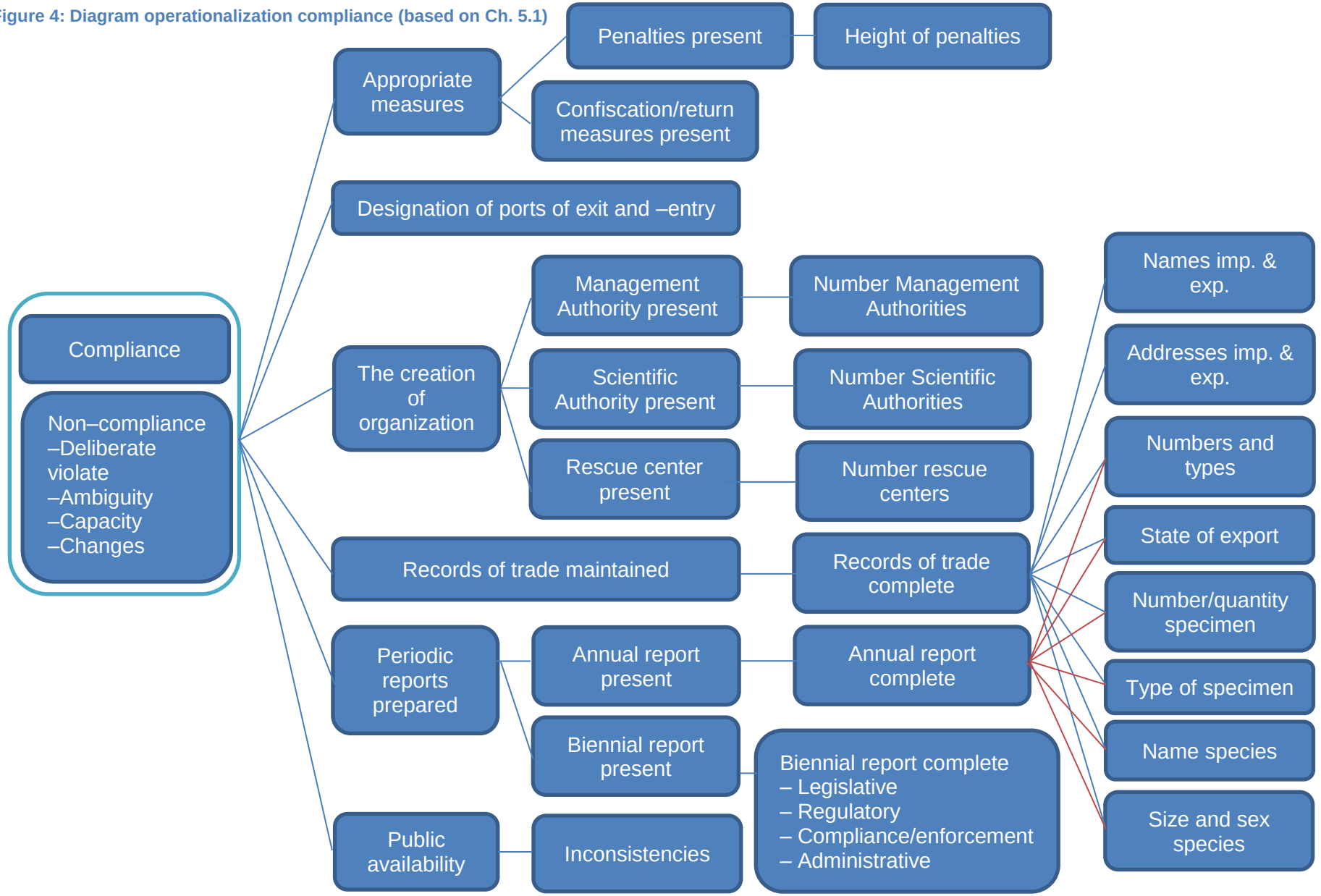
The final dimension is the public availability. It looks at whether the information of the periodic reports is made available to the public. If it is not available, it needs to be analyzed if it is because potential inconsistences between international regulations and domestic law (CITES, 1983).

The dimension includes one indicator and one subindicator. The indicator observes if the information of the annual reports and biennial reports are public available. The subindicator observes if any missing information is because of inconsistences between international regulations and domestic law.

## 5.2 – Diagram compliance

The operationalization of compliance includes many indicators, subindicators and sub–subindicators. The diagram in Fig. 4 enables through a graphical image to clearly oversee all of them at once.

Figure 4: Diagram operationalization compliance (based on Ch. 5.1)



## 5.3 – Operationalizing corruption

The operationalization of corruption differs from the operationalization of compliance. The levels of corruption have already been determined according to the data of Transparency International in Ch. 4.3.4. To finish the operationalization of this variable, it must be completed by the scores of Treisman's corruption categorization–scale.

As outlined previously, Ferraro studied the possibility to derive theories of the economic field and use them in the biodiversity/conservation field. This conversion enables Treisman to categorize corruption according to the 'state of economic development in a country'. The 'GDP per capita, PPP (current international $)'indicator within the 'state of economic development in a country' produced six categories for corruption. These six categories are: high income, upper middle income, middle income, low & middle income, lower middle income and low income (Treisman, 2000:p.144) & (World Bank, 2016).

The World Bank (2016) provides data on a yearly basis regarding the six categories of corruption. The levels of corruption are established by calculating the average score over the period 2010–2013:

| **GDP per capita, PPP (current international $)** | | | | | | |
|---|---|---|---|---|---|---|
| *Year(s)* | *High income* | *Upper middle income* | *Middle income* | *Low & middle income* | *Lower middle income* | *Low income* |
| **2010** | 39,121.7 | 11,986.2 | 8,274.8 | 7,604.1 | 4,890.3 | 1,336.9 |
| **2011** | 40,677.3 | 13,053.4 | 8,922.6 | 8,185.5 | 5,182.1 | 1,404.6 |
| **2012** | 41,808.8 | 13,831.0 | 9,428.2 | 8,634.4 | 5,468.9 | 1,446.2 |
| **2013** | 43,237.7 | 14,510.4 | 9,901.3 | 9,055.1 | 5,784.9 | 1,514.2 |
| ***Average 2010–2013*** | *41,211.375* | *13,345.25* | *9,131.725* | *8,369.775* | *5,331.55* | *1,425.475* |

**Table 11: Values of categorization scale of level of corruption (World Bank, 2016)**

## 5.4 – Reliability and validity

**Reliability**

Swanborn (2013:p.129) defined reliability as the stability of results when the study is duplicated by others.

Large–N studies are more reliable than small–N studies, because large–N studies cancel measurement errors out if they are distributed randomly. In small–N studies, measurement errors can have crucial consequences. For instance, a variable score can be wrongly interpreted by a researcher, which can result in inclusive outcomes. Although, the measurement–error problem can be countered by the fact that researchers thoroughly know their case studies. They probably do not make substantial errors in analyzing the cases (Blatter and Haverland, 2012:pp.67–68).

The measurement of small–N studies is still not quite reliable. The scoring of the pre–defined indicators can be of somewhat subjective nature. Another researcher might come to a different outcome, despite the research setting being the same (Blatter and Haverland, 2012:p.67).

**Internal validity**

Internal validity aims at the homogeneity of results and relates to the quality of the study (Swanborn, 2013:p.129).

Throughout the study clear bridges have been made. For instance, theory leads to conceptual models, and conceptual modes lead to the operationalization with indicators. The

different parts of the study are aiming in the same direction, which allows for homogeneity in results.

The quality of the study is ensured given the use of data triangulation within document analysis. The quality could have been better if document analysis was combined with interviews, but such method could not be pursued in this study. Nevertheless, document analysis produced a significant number of information, raising the internal validity of the study.

**External validity**

Lastly, external validity looks at the level of generalizability of results (Swanborn, 2013:p.166). In this study the generalizability of the results is twofold.

On one hand, the results are low with regards to the level of generalizability. The subject of the study is too specific to generalize its outcomes. There are not many other treaties that are as comprehensive in protecting flora and fauna as the Convention. The collaboration of so many actors to ensure the survival of thousands of species was not seen before.

On the other hand, the results can be generalized to some extent. The Convention, simply observed, is nothing more than a treaty countries need to comply with. The outcome of the corruption–compliance relationship can thus count for any other treaty, resulting in higher levels of generalizability.

The external validity can thus be twofold. A low level of generalizability on the one hand and a high level on the other hand. It depends on how the results are perceived.

# 6 – Results

The previous chapter assigned indicators to the variables. Having established the basis, the next step is to provide results. The results will be comparatively analyzed in Ch. 7.

Explaining how the information was collected is an extensive process. Each indicator will be briefly introduced, the final results will be presented and a reflection of the results complements these findings. The rest of the information –the 'how have the results been established'– can be found in Appendices 3 to 9.

The final results are presented in a table format. This method enables to oversee all the collected results regarding the specific indicators. It is not always possible to provide information on the wildlife part of the Convention given that some units include information about both flora and fauna. It is not a major obstacle, but it is an issue that will be discussed in the limitation chapter.

Following the same outline as the previous chapter, it begins with results concerning 'appropriate measures' indicator.

## 6.1 – Indicator 1: Appropriate measures

For the record, the ' appropriate measures' indicator is divided into two subindicators, one subindicator concerning measures to penalize violations and one subindicator concerning measures providing for the confiscation or the return of a specimen.

### 6.1.1 – Subindicator 1.1: Appropriate measures to: penalize trade or possession

CITES (1983), Article VIII, Paragraph 1a asks from its members to create measures to penalize trade or possession of species in violation with the Convention.

The treaty defines penalties in a general sense; each country must then interpret the concept. Some countries create one kind of penalty, functioning for all the kinds of possible violations with the Convention. Other countries create multiple kinds or penalties, which depend on the kind of violation. It is thus considered necessary to provide information about all kinds of penalties, as it will only then be possible to properly analyze the indicator. The information is collected from sources as governmental documents, IO and research. *For details on the different varieties see Appendix 3.*

**Overview: Subindicator 1.1: Appropriate measures to: penalize trade or possession**
The introduction mentioned that the final results would be presented in a table format, enabling to clearly oversee in one graphical image all the results at once. A brief reflection concerning the collected data follows.

| Overview penalties | | | |
|---|---|---|---|
| **Case (country)** | **Fine (min.–max., Euros)** | **Imprisonment (min.–max.)** | **Corporal punishment (yes/no)** |
| **Myanmar** | Max. 35 | Max. 7 years | No |
| **Kenya** | 9 – 360 | 6 months – 10 years | No |
| **Vietnam** | Max. 20500 | Max. 7 years | No |
| **Tanzania** | Max. 4*, or;*<br>*– Twice value of trophy* | 1 years – 10 years | No |
| **India** | 28 – 360, *or;*<br>*– min. of 144* | Max. 7 years | No |
| **Thailand** | 1082 – 5408 | 3 years – 10 years | No |
| **China** | *– Determined by the Department of Wildlife Administration*<br>*– Example number: 13754* | Max. life imprisonment | No |
| **South Africa** | 7061, *or;*<br>*– To be determined fines;*<br>*– Three times value of species* | Max. 5 years | No |
| **Hong Kong** | Max. 600 | 2 years | No |

**Table 12: Overview penalties of the countries (based on Appendix 3)**

The penalties deemed appropriate by the countries vary in number and in nature among the cases as illustrated in Table 12. Some countries –such as Myanmar– provide fixed numbers on the height of the fines. Other countries –such as Tanzania– choose to let the number fluctuate according to the value of the species or trophy. China, in this instance, is an unique case; it is the only country that let governmental organs to determine the value of the fines. It is also the only country that provides imprisonments that can add up to a lifetime.

### 6.1.2 – Subindicator 1.2: Appropriate measures to: provide for the confiscation or return

Subindicator 1.2 is divided into measures providing for the confiscation of an animal and measures providing for the return of a species to the state of origin.

The measures of confiscation are executed by the designated ports in a country. The measures of return are performed by a MA(s) in a country. It means that without these organizations, these measures cannot be implemented. It is thus important to establish whether countries have created both kinds of organizations. *Going a little ahead in the research, Tables 15 and 16 prove such existence*.

While the organizations are formally responsible for implementing these measures, it does not automatically mean they are implemented. For instance, national authorities have three options to choose from when dealing with a confiscated animal. They can decide to keep it in captivity, they can return it to the state of origin or they can decide to euthanize the confiscated animal. The three options vary according to the difficulty of implementing the option. For instance, the return of a confiscated animal takes a lot more effort than to euthanize it. National Geographic has proven that countries euthanize animals without providing any proper reason to why (Actman, 2016).

For the data of 'appropriate measures', it is thus important to provide evidence, real life examples, of their implementation. The identification of formally written tasks is not enough since authorities are able to ignore them. *For details on the specific units of information see Appendix 4.*

**Overviews: Subindicator 1.2: Appropriate measures to: provide for the confiscation or return**

| Overview provided measures for confiscation | | | | |
|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** |
| **Myanmar** | Yes | Yes | Yes | Yes |
| **Kenya** | Yes | Yes | Yes | Yes |
| **Vietnam** | Yes | Yes | Yes | Yes |
| **Tanzania** | Yes | Yes | Yes | Yes |
| **India** | Yes | Yes | Yes | Yes |
| **Thailand** | Yes | Yes | Yes | Yes |
| **China** | Yes | Yes | Yes | Yes |
| **South Africa** | Yes | Yes | Yes | Yes |
| **Hong Kong** | Yes | Yes | Yes | Yes |

Table 13: Overview provided measures for confiscation (based on Appendix 4)

| Overview provided measures for return | | | | |
|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** |
| **Myanmar** | Yes | Yes | Yes | Yes |
| **Kenya** | Yes | Yes | Yes | Yes |
| **Vietnam** | Yes | Yes | Yes | Yes |
| **Tanzania** | No | Yes | Yes | Yes |
| **India** | No | No | No | No |
| **Thailand** | Yes | Yes | Yes | Yes |
| **China** | No | No | No | No |
| **South Africa** | No | No | No | No |
| **Hong Kong** | Yes | Yes | Yes | Yes |

Table 14: Overview provided measures for return (based on Appendix 4)

Table 13 shows that all countries succeed in implementing measures providing for the confiscation of an animal.

Conversely, Table 14 shows different scores among countries in implementing measures concerning the return of an animal. It seems that the alternative options, keeping an animal in captivity or euthanize it, are preferred to returning an animal to the state of origin. India, China and South Africa seem to rather use these alternative options.

## 6.2 – Indicator 2: Designation of ports of exit and –entry

CITES (1983), Article VIII, Paragraph 3 requires countries, for instance, to ensure that trade shall occur within a specific minimum of delay. The regulation requires countries to designate ports of exit and ports of entry. The analysis observes what kind of ports, air–, sea– or land–based, countries have designated to meet the CITES responsibilities in the period 2010–2013. The evidence is based on official documents, news articles and empirical research. *For details on the specific units of information see Appendix 5.*

**Overview: Indicator 2: Designation of ports of exit and –entry**

| Overview designation of ports of exit and –entry | | | |
|---|---|---|---|
| **Case (country)** | **Airports** | **Sea–ports** | **Land–based ports** |
| **Myanmar** | No | Yes | No |
| **Kenya** | Yes | Yes | Yes |
| **Vietnam** | Yes | Yes | No |
| **Tanzania** | Yes | Yes | Yes |
| **India** | Yes | Yes | Yes |
| **Thailand** | Yes | Yes | Yes |
| **China** | Yes | Yes | Yes |
| **South Africa** | Yes | Yes | Yes |
| **Hong Kong** | Yes | Yes | Yes |

**Table 15: Overview designation of ports of exit and –entry; air–, sea– and/or land–based (based on Appendix 5)**

The designation of ports of exit and –entry is done by nearly every country, with the exception of Myanmar and Vietnam. Table 15 does not illustrate that both countries recently have started initiatives to meet this CITES regulation. Details in Appendix 5 elaborate that Myanmar started in August 2015 some port–initiatives and Vietnam started them in December 2014. They are not considered further in the analysis as they fall outside the 2010–2013 period. The consequence is that both are considered as showing non–complying behavior.

## 6.3 – Indicator 3: The creation of organizations

The indicator 'creation of organizations' is divided into three subcategories. The first one discusses the MAs in the countries, the second one deals with SAs and the last one looks at rescue centers. *For details on the specific units of information see respectively Appendices 6, 7 and 8.*

### 6.3.1 – Subindicator 3.1: Management Authority(ies)

CITES (1983), Article VIII, Paragraph 4 requires countries to create MAs responsible for, among other things, granting of permits or certificates. The indicator included in MAs assesses whether such organizations have been created by the countries. CITES provides a database with the numbers of MAs per country. The database unfortunately does not provide information on when the MAs were created. It is important to know the year of creation, because, only then, it is possible to identify if, and how many, MAs are created in the period 2010–2013. The details on the year of creation of MAs are determined by using governmental websites of the members.

**Overview: Subindicator 3.1: Management Authority(ies)**

| Overview number of Management Authority(ies) | | | | |
|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** |
| **Myanmar** | 1 | 1 | 1 | 1 |
| **Kenya** | 1 | 1 | 1 | 1 |
| **Vietnam** | 2 | 2 | 2 | 2 |
| **Tanzania** | 1 | 1 | 1 | 1 |
| **India** | 4 | 4 | 4 | 4 |
| **Thailand** | 3 | 3 | 3 | 3 |
| **China** | 8 | 8 | 8 | 8 |
| **South Africa** | 1 | 1 | 1 | 1 |
| ***Hong Kong*** | *Dependent territory of China* | | | |

**Table 16: Overview number of Management Authority(ies) (based on Appendix 6)**

Table 16 shows that all countries have created MAs before the period 2010–2013. The significant differences in results occur in the number of MAs created by each country.

Most countries have created just one MA, but India, Thailand and China created more. China created eight MAs, twice as much as India, which is the country that created the second highest number of MAs. It is important to note that Hong Kong, in this indicator, is considered as dependent territory of China despite being considered as a separate member of the Convention but it relies on mainland China to create MAs. The same issue arises in the indicators regarding SAs in Ch. 6.3.2 and recue centers in Ch. 6.3.3.

### 6.3.2 – Subindicator 3.2: Scientific Authority(ies)

CITES (1983), Article VIII, Paragraph 4 mentions the responsibilities of SAs in advising MAs and to determine whether trade in particular species is detrimental to its survival. The same outline of MAs counts also for SAs. It turns as well to CITES to account for the number of SAs and it turns to governmental websites for details on the year of creation.

**Overview: Subindicator 3.2: Scientific Authority(ies)**

| Overview number of Scientific Authority(ies) | | | | |
|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** |
| **Myanmar** | 2 | 2 | 2 | 2 |
| **Kenya** | 2 | 2 | 2 | 2 |
| **Vietnam** | 4 | 4 | 4 | 4 |
| **Tanzania** | 1 | 1 | 1 | 1 |
| **India** | 5 | 5 | 5 | 5 |
| **Thailand** | 3 | 3 | 3 | 3 |
| **China** | 1 | 1 | 1 | 1 |
| **South Africa** | 1 | 1 | 1 | 1 |
| ***Hong Kong*** | *Dependent territory of China* | | | |

**Table 17: Overview number of Scientific Authority(ies) (based on Appendix 7)**

Table 17 shows that all countries have created SAs before the 2010–2013 period. The significant changes in results concern the number of SAs.

Vietnam, India and Thailand stand out as they have created significantly more SAs than the other studied countries.

### 6.3.3 – Subindicator 3.3: Rescue center(s)

CITES (1983), Article VIII, Paragraph 5 requires rescue centers to look after the welfare of living specimens, particularly those that are confiscated. Despite being categorized under the same paragraph as MAs and SAs in the Convention, the collection of information concerning rescue centers follows a different approach. CITES itself does not provide a database of all created recue centers by its members. The Survival Network organization (SSN) is used as an alternative.

The SSN secures the wildlife protection that is offered by CITES, as it coordinates the activities around conservation–, environmental– and animal protection organizations. It is a coalition of over 100 organizations that operates in around 40 countries. Biologists, lawyers and trade– and environment experts provide legal– and scientific research that can be used by CITES itself or the members of the Convention (SSN, 2017a).

The expertise of the SSN is acknowledged by CITES and its members. CITES conducted research to provide recommendations on the working relationship between governments and the designated rescue centers. One of the main sources used in the study was the data from the SSN (CITES, 2016:p.8).

The SSN does not however cover every country spanning the globe, as they only focus on 40. Out of the nine cases of this study, Myanmar and Tanzania are not covered by the SSN overview. Therefore, other external sources are used to collect information about rescue centers in Myanmar and Tanzania.

**Overview: Subindicator 3.3: Rescue center(s)**

| **Overview number of Rescue center(s)** | | | | |
|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** |
| **Myanmar** | 2 | 2 | 3 | 3 |
| **Kenya** | 1 | 1 | 1 | 1 |
| **Vietnam** | 5 | 5 | 5 | 5 |
| **Tanzania** | 1 | 1 | 1 | 1 |
| **India** | 2 | 2 | 2 | 2 |
| **Thailand** | 1 | 1 | 1 | 1 |
| **China** | 3 | 3 | 3 | 3 |
| **South Africa** | 3 | 3 | 3 | 3 |
| ***Hong Kong*** | *Dependent territory of China* | | | |

**Table 18: Overview number of Rescue center(s) (based on Appendix 8)**

Table 18 shows that all countries have created rescue centers before the 2010–2013 period. The significant changes in results relates to the number of rescue centers created by member countries.

China, South Africa, Myanmar (since 2012) and India have created significantly more rescue centers than the other cases did.

## 6.4 – Indicator 4: Records of trade

CITES (1983), Article VIII, Paragraph 6 requires each country to maintain records of trade in specimens of species included in Appendices I, II and III of the Convention. Fig. 4 displays a variety of elements that need to be recorded and maintained by the countries.

The data of these records is compiled into the CITES Trade Database. It is one of the world's most detailed databases in flora and fauna with over 15 million data entries in 2015. It is thus the only source used, but a source that is highly accurate and of a high quality (CITES, 2015a) & (CITES Secretariat, 2011:sheets 18–25).

The database unfortunately does not include all details of the maintained records of trade. The missing elements in the database are: the addresses of exporters, the number and type of permits and certificates granted and importers and the sex of the specimens.

The database comprises of a variety of distinctions regarding its data. It is therefore necessary to explain the approach used to collect the information regarding the elements of the records of trade. The next elements are linked with the distinctions in the database to be able to collect the information:

- The names of exporters and importers – columns: 'importer' and 'exporter'
- The States with which such trade occurred – column: 'importer' or 'exporter'
- The numbers or quantities and types of specimens – columns: 'importer reported quantity' or 'exporter reported quantity' and 'term'
- The names of species as included in Appendices I, II and III – column: 'genus'
- If applicable, the size of the specimen – columns: 'importer reported quantity' or 'exporter reported quantity' and 'unit'

The records of trade in Appendix 9 are composed of two elements. The first element looks at the nature of a country's trade, either importing–, exporting– and/or intermediary. The second element relates to the kind of trade the country is involved in, more specifically, it records the type of animal traded –either elephant, rhino and/or tiger–. The records of trade need thus to be assessed according to the kind of trade a country is involved in. The combination of both elements is the optimal way to assess this indicator.

**Overview: Indicator 6.4: Records of trade**

| **Overview records of trade** | | |
|---|---|---|
| **Case (country)** | **Records of trade present** | **Records of trade complete** |
| **Myanmar** | Yes | Yes |
| **Kenya** | Yes | Yes |
| **Vietnam** | Yes | Yes |
| **Tanzania** | Yes | Yes |
| **India** | Yes | Yes |
| **Thailand** | Yes | Yes |
| **China** | Yes | Yes |
| **South Africa** | Yes | Yes |
| **Hong Kong** | Yes | Yes |

**Table 19: Overview records of trade (based on Appendix 9)**

Table 19 shows a remarkable result; all countries show a perfect score in maintaining records of trade and providing complete records of trade.

The CITES database is however incomplete, as some elements are not accounted for. Nevertheless, it does not affect the compliance variable since the missing information is a result of CITES regulations (CITES, 2017e).

## 6.5 – Indicator 5: Periodic reports

The periodic reports are divided into two sections. The first section describes the presence of annual reports and whether the content of the report is complete or not. The second section follows the same logic, but it analyzes the biennial reports instead of the annual reports.

### 6.5.1 – Subindicator 5.1: Annual report

CITES (1983), Article VIII, Paragraph 7a requires every country to provide annual reports. The annual reports contain a summary of certain elements of the records of trade, the summarized elements can be found in the diagram of Fig. 4.

CITES itself provides an overview of the presence of annual reports covering multiple years (CITES, 2017g).

**Overview: Subindicator 5.1: Annual report**

| **Annual report present** | | | | |
|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** |
| **Myanmar** | Yes | Yes | Yes | Yes |
| **Kenya** | Yes | Yes | Yes | Yes |
| **Vietnam** | Yes | Yes | Yes | Yes |
| **Tanzania** | Yes | Yes | Yes | Yes |
| **India** | Yes | No | Yes | Yes |
| **Thailand** | Yes | Yes | Yes | Yes |
| **China** | Yes | Yes | Yes | Yes |
| **South Africa** | Yes | Yes | Yes | Yes |
| **Hong Kong** | Yes | Yes | Yes | Yes |

**Table 20: Annual report present (CITES, 2017g)**

Table 20 shows a nearly 100% score in the providing of annual reports by its members, with the notable exception of India, which failed to provide the 2011 edition of the annual reports.

It is unfortunately unable to assess if the annual reports are complete or not. CITES regulation does not allow public access of this unit of information. The compliance of countries with the Convention cannot be assessed and it is therefore not affected.

### 6.5.2 – Subindicator 5.2: Biennial report

CITES (1983), Article VIII, Paragraph 7b requires every country to provide biennial reports. The biennial reports provide information on the legislative–, regulatory–, compliance– & enforcement– and administrative measures taken to enforce the provisions of the Convention.

The name of biennial report suggests already the fact that it occurs only once every two years. The period covered by this study thus only allows assessing one full cycle of biennial reports: the 2011–2012 edition. A review based on one period does not represent a proper analysis. Therefore, the editions of 2009–2010 and 2013–2014 are also taken into consideration. The years of 2010 and 2013 still show affinity with the studied period 2010–2013. The choice enables to analyze multiple biennial report cycles which consequently increases the quality of the analysis.

**Overview: Subindicator 5.2: Biennial report**

**Biennial report present**

| **Biennial report present** | | | |
|---|---|---|---|
| **Case (country)** | ***(2009–)*2010** | **2011–2012** | **2013*(–2014)*** |
| **Myanmar –I–** | No | No | No |
| **Kenya –II–** | No | No | No |
| **Vietnam –III–** | Yes | Yes | Yes |
| **Tanzania –IV–** | No | No | No |
| **India –V–** | No | No | No |
| **Thailand –VI–** | Yes | Yes | Yes |
| **China –VII–** | Yes | Yes | No |
| **South Africa –VIII–** | No | No | No |
| **Hong Kong –IX–** | Yes | No | No |

**Table 21: Biennial report present (I CITES, 2017h) / (II CITES, 2017i) / (III CITES, 2017j) / (IV CITES, 2017k) / (V CITES, 2017l) / (VI CITES, 2017m) / (VII CITES, 2017n) / (VIII CITES, 2017o) / (IX CITES, 2017p)**

The presence of biennial reports shows to be randomly divided over the cases and over the years. Vietnam and Thailand are the only two countries that provided biennial reports in every studied cycle. China and Hong Kong partly succeeded. The remaining countries did not provide any biennial reports.

**Biennial report complete**

| **Vietnam biennial reports complete** | | | |
|---|---|---|---|
| **Year of report** | **Legislative & regulatory information complete –Part B report–** | **Compliance & enforcement information complete –Part C report–** | **Administrative information complete –Part D report–** |
| ***(2009–)*2010*** | Yes | Yes | Yes |
| **2011–2012 **** | Yes | Yes | Yes |
| **2013*(–2014)****** | Yes | Yes | Yes |

**Table 22: Biennial report complete Vietnam (* CITES, 2011a) / (** CITES, 2013b) / (*** CITES, 2015b)**

| **Thailand biennial reports complete** | | | |
|---|---|---|---|
| **Year of report** | **Legislative & regulatory information complete –Part B report–** | **Compliance & enforcement information complete –Part C report–** | **Administrative information complete –Part D report–** |
| ***(2009–)*2010*** | Yes | Yes | Yes |
| **2011–2012 **** | Partly | Yes | Partly |
| **2013*(–2014)****** | Partly | Yes | Yes |

**Table 23: Biennial report complete Thailand (* CITES, 2011b) / (** CITES, 2013c) / (*** CITES, 2015c)**

| China biennial reports complete | | | |
|---|---|---|---|
| **Year of report** | **Legislative & regulatory information complete –Part B report–** | **Compliance & enforcement information complete –Part C report–** | **Administrative information complete –Part D report–** |
| ***(2009–)*2010*** | Partly | Partly | Partly |
| **2011–2012 **** | Partly | Partly | Partly |

Table 24: Biennial report complete China (* CITES, 2011c) / (** CITES, 2013d)

| Hong Kong biennial reports complete | | | |
|---|---|---|---|
| **Year of report** | **Legislative & regulatory information complete –Part B report–** | **Compliance & enforcement information complete –Part C report–** | **Administrative information complete –Part D report–** |
| ***(2009–)*2010*** | Partly | Yes | Partly |

Table 25: Biennial report complete Hong Kong (*CITES, 2011d)

The assessment of complete biennial reports is only logical in reviewing the cases of Vietnam, Thailand, China and Hong Kong. They are the only countries that provided biennial reports.

Out of the four cases, Vietnam and Thailand are the only countries that provided one or more complete biennial reports. The content of other countries' reports are often incomplete in some small parts. The results of those pieces of information are thus considered as 'partly complete'.

## 6.6 – Indicator 6: Public availability

The last indicator of compliance is the public availability of the periodic reports.

**Overview: Indicator 6: Public availability**

| Public availability | |
|---|---|
| **Subindicator** | **Information public available (Yes/No/Partly)** |
| Subindicator 5.1: Annual report | Partly, but it not affects the compliance |
| Subindicator 5.2: Biennial report | Yes |

Table 26: Overview public availability (based on Ch. 6.5)

The annual reports show to be partly accessible to the public. The public is thus able to see whether countries provided annual reports over the years, but any details concerning their content are not available. The incomplete information is a result of CITES regulation, and due to member country negligence. Consequently, it does not affect the level of compliance of countries with the Convention. On the contrary, the biennial reports are available to the public, including their content.

## 6.7 – Corruption

The final indicator is the level of corruption, categorized by GDP per capita PPP. The levels of corruption according to Transparency International were already provided in Table 10. It is next necessary to produce data on the scale of GDP per capita PPP. The data for the GDP per capita PPP is determined on each case individually, for each year. Afterwards, the average value is calculated. The last step is to link these values with the six categories outlined by Treisman. For the record, this scale consists of the next average values, starting with 1,425.475 USD as the bottom line:

- Low income 1,425.475 – 5,331.55 USD
- Lower middle income 5,331.55 – 8,368.775 USD
- Low & middle income 8,368.775 – 9,131.725 USD
- Middle income 9,131.725 – 13,345.25 USD
- Upper middle income 13,345.25 – 41,211.375 USD
- High income >41,211.375 USD

**Overview: Corruption**

| **GDP per capita, PPP (current international $)** | | | | | | |
|---|---|---|---|---|---|---|
| **Case (country)** | **2010** | **2011** | **2012** | **2013** | ***Average 2010–2013*** | ***Scale applied*** |
| **Myanmar** | 3,534.8 | 3,780.8 | 4,099.9 | 4,479.6 | *3,973.775* | *Low income* |
| **Kenya** | 2,487.2 | 2,622.7 | 2,719.0 | 2,843.4 | *2,668.075* | *Low income* |
| **Vietnam** | 4,395.5 | 4,715.9 | 5,000.8 | 5,300.3 | *4,853.125* | *Low income* |
| **Tanzania** | 2,068.5 | 2,206.9 | 2,289.3 | 2,417.4 | *2,245.525* | *Low income* |
| **India** | 4,315.4 | 4,634.9 | 4,921.8 | 5,267.0 | *4,784.775* | *Low income* |
| **Thailand** | 13,309.4 | 13,654.3 | 14,853.3 | 15,435.0 | *14,313.0* | *Upper middle income* |
| **China** | 9,333.1 | 10,384.4 | 11,351.1 | 12,368.0 | *10,859.15* | *Middle income* |
| **South Africa** | 11,785.6 | 12,243.9 | 12,556.7 | 12,859.6 | *12,361.45* | *Middle income* |
| **Hong Kong** | 47,134.6 | 50,086.0 | 51,274.0 | 53,465.2 | *50,489.95* | *High income* |

**Table 27: Categorization scale of level of corruption applied (World Bank, 2016)**

# 7 – Analysis

Chapter seven contains the analysis. The analysis assesses whether a relationship exists between the two variables and, if so, what the nature is of that relationship.

The analysis is a comparative one; it compares the various causes and effects of the results to each other. Ultimately, the analysis determines whether the effects are singular or multifactorial in nature. For instance, the effect of non–compliance is singular in nature if it is caused by corruption alone, and multifactorial when there are more causal factors than just corruption.

Section 7.1 begins with a graphical image presenting all the collected results. Next, section 7.2 provides the descriptive and explanatory analyses. The descriptive analysis examines the different kinds of results. The explanatory analysis assesses whether a relationship exists between the two variables and, if so, what that relationship is. It is intertwined with the criteria created by Hill –*elaborated below*–. The final section contains a brief discussion of the findings.

**Hill's criteria**

Hill's criteria on causes and effects enable us to assess the existence of a relationship between two variables and what the nature of that relationship is. Hill's criteria were originally intended for the field of public health. But in the journal 'Research on Social Work Practice', Lawrence (2014) argues the possibility of using the criteria in the field of social research as well. The conversion of criteria is possible because the concept of causal inference functions as an essential part in both the field of public health and that of social research.

Hill's criteria vary per case in their applicability. In other words, it varies per study as to which of Hill's nine criteria are applicable in assessing the studied relationship. Below are Hill's criteria:

- Temporal relationship: here it is determined that exposure must always precede the outcome
- Strength: the stronger the association is between the two variables, the more likely it is that the relationship will turn out to be causal
- Dose–response relationship: more exposure increases the risk
- Consistency: results are consistent if the results can be replicated in other studies with different setting and methods
- Plausibility: the expected relationship between two variables has some theoretical basis
- Consideration of alternative explanations: this questions whether other explanations have been taken into consideration
- Experiment: the conditions of the experiment can be altered
- Specificity: this questions whether a single cause can produce a specific effect
- Coherence: this stresses that the relationship should be compatible with existing theory and knowledge

**Color scores**

The last step before starting with the descriptive and explanatory analyses is to explain the color scores method used in the overview of results. Nowell (2012:p.7) defines color scores as the use of certain colors to oversee at once the kinds of results. Color scores in this study enable us to establish if a country complies, if a country does comply, or if a country partly complies. Four color scores are chosen, which indicate either a 'Yes'–score, a 'No'–score, a 'Partly'–score or no data available.

[] Green: a country complies – 'Yes' score
[] Red: a country not complies – 'No' score
[] Purple: a country partly complies – 'Partly' score
[] *Yellow: no data available* – *'NA' and 'Depends on China' scores*

## 7.1 – Overview of results

| | Myan –mar | Kenya | Vietnam | Tanzania | India | Thai –land | China | South Africa | Hong Kong |
|---|---|---|---|---|---|---|---|---|---|
| **Fine (Euros)** | Max. 35 | 9–360 | Max. 20500 | Max. 4 or two x value | 28–380 | 1082–5408 | To be deter mined | 7061 or three x value | Max. 600 |
| **Imprison –ment (Years)** | Max. 7 | 0.5–10 | Max. 7 | 1–10 | Max. 7 | 3–10 | Max. life | Max. 5 | 2 |
| **Corporal punishment** | No | No | No | No | No | No | No | No | No |
| **Measures of confiscation** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Measures of return** | Yes | Yes | Yes | Since 2011 | No | Yes | No | No | Yes |
| **Airport** | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Seaport** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Land–based port** | No | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes |
| **Present & number of MA** | Yes; 1 | Yes; 1 | Yes; 2 | Yes; 1 | Yes; 4 | Yes; 3 | Yes; 8 | Yes; 1 | *Depends on China* |
| **Present & number of SA** | Yes; 2 | Yes; 2 | Yes; 4 | Yes; 1 | Yes; 5 | Yes; 3 | Yes; 1 | Yes; 1 | *Depends on China* |
| **Present & number of rescue center** | Yes; 2 & 3 since 2012 | Yes; 1 | Yes; 5 | Yes; 1 | Yes; 2 | Yes; 1 | Yes; 3 | Yes; 3 | *Depends on China* |
| **Records of trade present** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Records of trade complete** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Annual report present** | Yes | Yes | Yes | Yes | Partly ; miss 2011 | Yes | Yes | Yes | Yes |
| **Biennial report present** | No | No | Yes | No | No | Yes | Partly; miss 2013/ 2014 | No | Partly; miss 2011 till 2014 |
| **Biennial report complete** | *NA* | *NA* | Yes | *NA* | *NA* | Partly | Partly | *NA* | Partly |
| **Level of corruption** | 16.25 | 24.25 | 29.5 | 31.25 | 34 | 35.25 | 37.5 | 42.75 | 80 |
| **GDP PPP applied** | Low incom e | Low income | Low income | Low income | Low incom e | Upper middle income | Middle income | Middle income | High income |

**Table 28: Overview of results (based on Ch. 4.3.4 & Ch. 6)**

### Public availability indicator

Table 28 does not yet mention the results of public availability. Public availability proves to be more intertwined with the indicators annual reports and biennial reports than with the countries; it is therefore not really possible to include in the overview. The indicator briefly analyzed; the annual reports are partly accessible and the biennial reports are completely accessible. The partial accessibility is due to CITES regulations; this therefore did not affect the compliance indicators of countries within the Convention.

## 7.2 – Descriptive and explanatory analyses

Table 28 allows us to distinguish two kinds of results to descriptively analyze. The first variant distinguishes results that vary 'little or none' from each other. The second variant distinguishes results that vary 'substantially' from each other.

### 7.2.1 – Descriptive analysis: Little or none difference

The results in table 28 that vary 'substantially' are important, they can imply that the lower the level of corruption is, the higher the degree of compliance is –hypothesis–. The results that vary 'little or none' are equally important. Data that corresponds with this variant also provides important statements because it can imply that the hypothesis cannot be verified.

Eight indicators out of the possible seventeen showed results that vary little or none. This is already quite an important outcome, because half of the indicators do not back up the expectation of the hypothesis. In the early stages of the analysis it can thus already be questioned whether the level of corruption is a significant factor in affecting the non–compliance of countries. The chapters continues by seperatly analyzing each indicator that shows little or no difference in results among the cases.

**Corporal punishment and measures of confiscation**

The first two indicators that show little or no difference in results are corporal punishment and measures of confiscation; these both stem from the general indicator of appropriate measures to be taken. The indicator 'presence of corporal punishment' is discussed first, followed by the indicator 'measures of confiscation'.

The use of corporal punishment, in other words physical pain, is not considered by any of the countries as an appropriate penalty. CITES itself does not take a position as to whether it is appropriate or not, but treaties other than CITES prevent the countries from using corporal punishment. For instance, the 1987 Convention against Torture, Article 1, Paragraph 1 prohibits the use of physical or mental pain, for example, to punish an individual. In 1987 the universal belief surfaced that no one shall be subjected to inhumane treatment or torture. All of the countries in this study are members of this treaty, consequently meaning that none of the countries considers corporal punishment as an appropriate measure to use in penalization (OHCHR, 2017:p.1).

The creation of confiscation measures is intertwined with the designation of ports of exit and –entry, the authorities responsible for executing these measures. Table 28 shows that all countries have designated one or more variant of ports of exit and –entry; this consequently means that all countries execute measures of confiscation.

**Designated ports of exit and –entry: air–, sea– and/or land–based**

The next three indicators that show little or no differences in results are the designated ports of exit and –entry: air–, sea– and/or land–based. Table 28 shows that all countries created sea ports, but the other two variants of ports show some differences in results among the cases. Myanmar and Vietnam are the countries that stand out compared to the rest. Myanmar created airports and land–based ports after 2015. It started in collaboration with WWF and TRAFFIC in certain trainings. It is because of these trainings that the officials of the Myanmar ports acquired the required level of expertise. Vietnam has possessed land–based ports since 2014. Like Myanmar, Vietnam started with providing trainings to increase the level of expertise. Vietnam collaborated in this initiative with the NGO Save Vietnam's Wildlife.

It is interesting to establish that neither country came into action before outside actors such as NGOs started to reach out to the national governments. It cannot be explicitly found in sources, but it occurred twice that only after external pressure did the countries start trainings for port officials. The theory on treaty compliance suggests that non–compliance can occur due to deliberate–violate behavior (Chayes and Chayes, 1993:pp.187–188); this seems to be the case in the behavior of Myanmar and Vietnam.

**Records of trade present and complete**
The results of the records of trade are the same for every country. Each case complies 100% in providing records of trade and the providing of complete records of trade.

However, it must be noted that certain elements are missing in the records of trade. Missing elements do not automatically affect the compliance of countries within the Convention. CITES regulations dictated that these elements were not included; the countries can therefore not be accounted for the missing information.

**Annual report present**
The last indictor that shows 'little or no' difference in results is the presence of annual reports. India is the only case that missed providing an edition of the annual reports in the period 2010–2013; it missed the 2011 edition. Further details are not given by CITES on why India missed the 2011 edition. A suggestion can be made, though. The missing edition might be because of a bureaucratic error on the part of India. India appears to be consistent over the remaining years. There are many other treaties India needs to take care of as well. The theory on treaty compliance suggests that responsibilities are from time to time difficult to fulfill, because there are so many of them (Chayes and Chayes, 1993:pp.193–194). It can thus be difficult to always show the behavior in question. The case of India and annual reports represents a scenario in which a country failed to show the expected behavior.

### 7.2.2 – Descriptive analysis: Substantial differences

The second kind of descriptive analysis is that in which the results differ substantially when the countries are compared to each other.

Eight indicators out of the possible seventeen showed results that vary substantially. It is important to note that eight indicators are mentioned which show little or no differences in results, and eight indicators showing substantial differences in results; one indicator is not included. The indicator not included is that of public availability. Public availability shows more affinity with the indicators of annual reports and biennial reports than the countries; it is still briefly analyzed and can be found in the section below Table 28.

The eight indicators showing substantial differences in results each need to be separately analyzed to be able to make conclusions about whether or not they support the hypothesis.

**Fines and imprisonment**
The first two indicators that show substantial differences in results are the fines and the imprisonments. Both of these indicators stem for the general indicator of appropriate measures to penalize an individual.

Fines are one of the varieties of penalties given by a country in case of violation with the Convention. The hypothesis of the study expects a relationship where the lower the level of corruption of a country is, the higher the degree of compliance is. The results showing substantial differences in such a relationship *should* thus be identified as supporting the hypothesis. However, it seems that the height of the fines are categorized by geographical region rather than distributed by a corruption–compliance relationship. The Asian countries determine the height of fixed fines substantial higher than African countries do, Myanmar excluded. The heights of fines in the African countries by far do not reach the Asian standard. On the one hand, the ranking of corruption shows us overall that the countries with highest level of corruption –with the exception of Vietnam– set the lowest fines. The geographical argument, on the other hand, cannot be overlooked. It explains the pattern in the height of fines also fairly well.

The other penalty variant, that of imprisonment, shows substantial differences in results, though it is not possible to identify a logical explanation for why they differ. The imprisonments range among most of the countries from 3 to 10 years, with the exception of China and Hong Kong. China is the only case where imprisonments have a maximum length of a lifetime. Hong Kong has one of the lowest levels of imprisonment, while the country

possesses the best numbers in level of corruption. The results of the imprisonments thus differ substantially; they do not support the hypothesis, though.

**Measures of return**

The measures of return produce surprising results. The hypothesis of the study expects the relationship in which the lower a country's level of corruption is, the higher the degree of compliance. The results of the measures of return show the relationship to be the opposite. The cases of India, China and Hong Kong do not execute measures of return in reality, while formally the MAs are appointed to do this job. The countries thus turned to using the alternative options of keeping the confiscated animals in captivity or euthanize the animals. The latter option proven is by National Geographic to occur without any reason (Actman, 2016). The theory on treaty compliance suggests that the ambiguity of the treaty language can influence the compliance of countries (Chayes and Chayes, 1993:pp.188–189). It seems that the countries acted according to this theoretical concept. The Convention requires countries to create MAs responsible for the measures of return. The Convention does not require that the responsibility is actually fulfilled in reality. The ambiguity of the language thus enables India, China and Hong Kong to use the alternative options instead of measures of return.

**Created organizations: MA(s), SA(s) and rescue center(s)**

The next three indicators that show substantial differences in results are the numbers of MAs, SAs and rescue centers created by the countries. Each country has created these organizations. The substantial differences in results can therefore not be identified in that section, but they are able to be identified in the number of these organizations the countries created.

First, the results of the MAs show that the lower the level of corruption is, the higher the number of MAs is. The countries showing higher levels of corruption create fewer MAs than the countries with lower levels of corruption. The case of South Africa does not fit this pattern, though, and Hong Kong depends on China for its MAs. The latter also holds true for Hong Kong with SAs and rescue centers. Table 28 shows that the countries ranked lower on corruption are also the less economically developed countries. The theory on treaty compliance suggests that the lack of capacity can affect the compliance of a country with a treaty (Chayes and Chayes, 1993:pp.193–194). This theoretical concept explains the fact that the countries ranked lower on corruption which are less economically developed are also less able to create multiple MAs. Unfortunately, South Africa does not fit the pattern, which consequently weakens the assumption. Moreover, it is able to identify another pattern that better explains the substantial differences in results than the corruption–compliance relationship does. It is again that the outcome is better explained by dividing the countries by geographical region, Myanmar –again– excluded. The Asian countries comply quite better in general than the African countries do.

The other organization variant of the SA shows substantial differences; it is not possible, though, to identify a logical explanation for the differences. Single and multiple numbers of SAs occur both in countries with high levels of corruption and in countries with low levels of corruption. The absence of a pattern does consequently mean the hypothesis is not supported.

The argument of the SAs counts for the number of rescue centers in countries as well. The numbers are distributed variously over the countries. The data thus does not support the hypothesis.

**Biennial report present and complete**

The last indictors that show 'substantial' differences in results are the presence of biennial reports and whether the biennial reports are complete or not.

Of the nine cases, Vietnam and Thailand are the only countries that provide every edition of biennial reports in the period 2010–2013. China and Hong Kong miss one or more editions, and the remaining countries provide no biennial report at all. With the exception of

Vietnam, it is mainly the countries with low levels of corruption that provide one or more editions of the biennial reports. Only Vietnam and Thailand succeeded in providing one or more complete reports.

Vietnam and Thailand are the only cases out of the four that provided one or more complete sets of reports over the whole period of 2010–2013. Thailand, China and Hong Kong only produced one or more reports that are partly complete. The results consequently mean the hypothesis is not supported. Vietnam, representing a country with a high level corruption, is the only country that succeeded in both providing every edition and all complete editions of biennial reports.

It is guesswork as to why so many biennial reports are absent, as no sources can be found with reasons into why. It is surprising that the other variant of periodic reports are fairly well created. The results in presence of annual reports show almost a 100% score of countries creating them. The theory on treaty compliance suggests that responsibilities are from time to time difficult to fulfill, because there are so many of them (Chayes and Chayes, 1993:pp.193–194). It seems to be the case that the countries are unable to produce both kinds of periodic reports and that they thus choose to give priority to creating the annual reports.

The conclusion is that the results in Table 28 on presence of biennial reports and complete biennial reports do not support the hypothesis.

### 7.2.3 – Explanatory analysis: Hill's criteria

The previous chapter descriptively analyzed the results and divided them into results that show either 'little or no' differences or 'substantial' differences. The next section gives an explanatory analysis of the results. The explanatory analysis assesses whether a relationship exists between the two variables and what the nature is of that relationship. The section is intertwined with criteria from Hill that vary per case as to which are usable.

The section begins with explaining which of Hill's criteria are not used in the analysis; it then continues with applying the usable criteria and it closes with an overview of the analysis.

**Hill's unusable criteria for explanatory analysis**

Lawrence (2014) argues that it varies per case as to which of Hill's criteria are able to be used. The explanatory analysis of this study shows that four of Hill's criteria are unusable.

The first unusable criterion for explanatory analysis is temporal relationship. The definition of the criterion believes that the factor X of high level of corruption causes non–compliance. Lawrence considers it as an essential criterion, but it is a criterion that shows more affinity with the causation nature of the research question than the explanatory analysis. Nevertheless, the criteria briefly applied it examines if the research question is based according to a factor X affecting compliance. The criterion is fulfilled, as the factor is represented by the 'level of corruption'.

The second unusable criterion is consistency. The criterion looks at the consistency of results when they are replicated in other studies with different setting and methods. It is a criteria more concerned with the assessing of results over multiple studies. It is possible to assess the level of corruption in other countries than the nine of this study. The comparison of multiple studies is not the purpose of this study, though. This means that consistency cannot be used as a criterion.

A third unusable criterion is plausibility. Plausibility is defined as the presence of some theoretical bases between the two variables. It is an unusable criterion for the explanatory analysis as it shows more affinity with the chapter regarding the theory. The study of Damania et al. (2004) proves a significant relationship between corruption and the degree of compliance. A theoretical basis between the two variables is thus present. It can be questioned, though, if it really is a suitable theory. The theory only assesses three factors that might influence compliance. However, the literature indicates that many more may exist. A counter question arises at the same time: Can all the possible factors affecting compliance

be compared to each other to create a compliance theory? The plausibility criterion is thus fulfilled for a theory on the two variables provided, although a more elaborated one would be more suitable.

The last unusable criterion for explanatory analysis is experiment, meaning whether or not the conditions of the study are able to be altered. It is not suitable to use in the analysis, as the criteria is more of technical nature. The conditions, though, can be altered. The level of corruption represents factor X, but it could have easily been another factor. The same counts for the choice of investigated treaty. Another treaty that shows compliance issues could easily have been used to analyze the corruption–compliance relationship.

The next section discusses the criteria that are suitable to use in the explanatory analysis.

**Strength**

The strength criterion describes that the stronger an association between the two variables is, the more likely it is that the relationship is causal. The strength criterion is not very well fulfilled in the corruption–compliance relationship of the Convention. This consequently means that the causes and effects are not causal.

To begin with, eight of the seventeen indicators showed results that differed 'little or none' among the cases. Almost half of the indicators represent data that does not differ or differs just a little. This means that the expected relationship cannot be identified and that the hypothesis cannot be verified.

Second, it is not possible to verify the hypothesis based on the eight indicators that show results that differ 'substantially' among the cases. Most of the substantial differences in results among these indicators did not fit the pattern of the expected relationship. Two of the eight indicators showed some correlation with the expected corruption–compliance relationship. But, this can be countered by the fact that the substantial differences in those indicators can as well be explained by a geographical argument, up to a certain extent. The substantial differences in results of the indicators fines and number of MAs can as well be explained by comparing Asian countries to African countries. The Asian countries comply in general higher with the CITES responsibilities than the African countries do.

To conclude, the strength criterion proves that corruption as singular factor affecting compliance is not significant.

**Dose–response relationship**

The criterion of dose–response relationship looks at the level of corruption being higher, the lower the degree of compliance is. The causal relationship between these two variables can be verified if such a relationship is identified.

The criterion is to some extent intertwined with the strength criterion. This means that it is not possible in any of the relationships to identify that the level of corruption is lower the higher the degree of compliance. Half of the indicators provided results that differ 'little or none'. These kinds of results already do no support the corruption–compliance relationship. The remaining indicators present results that differ 'substantially'. The results differ among the countries, but not in a way in which the corruption–compliance relationship can be supported. The dose–response relationship and strength do not provide any significant evidence, either, for the identification of a causal relationship between the two variables.

**Consideration of alternative explanations**

The criterion of alternative explanations discusses whether other explanations are taken into consideration. This criterion can be answered with a yes and a no.

Alternative explanations have been taken into consideration, because alternative arguments explaining the results are not neglected. The results in the indicators fines and number of MAs can as well be explained by the alternative argument of geographical pattern.

Alternative explanations have not been taken into consideration because factor X of the study merely represents the level of corruption. The level of corruption was chosen as the only indicator to be studied due to time and resource limitations.

Are the alternative explanations taken into consideration (?); Partly. The appearance of alternative explanations for differences in the results was not neglected in the analysis. The analysis of other possible factors affecting compliance, on the other hand, was deliberately left out.

**Specificity**

The specificity criterion questions whether a single cause can produce a specific effect. The literature review considered that compliance might be affected by multiple factors. The extent of the effect of the level of corruption on compliance has previously not been studied thoroughly, though. It has not been previously possible to provide definitive statements on the specificity of the level of corruption, until now. The indicator is intertwined with those of strength and dose–response relationship. Both of those indicators contribute to the determining of a causal relationship between the two variables. Can the level of corruption as a single cause affect the degree of compliance? The explanatory analysis of both the strength and the dose–response relationship criteria prove that this is not possible.

**Coherence**

The last usable criterion for the explanatory analysis is coherence. Coherence stresses that the relationship should be compatible with existing theory and knowledge. The relationship between the two variables proved to be of non–causal nature. It is thus not coherent with existing theory, but it is coherent with the knowledge of the literature review.

The theory on the two variables is created by analyzing the effect of three factors against the degree of compliance. The compliance of the Convention, though, might be affected by many more factors. The phenomenon of the Convention is therefore not congruent with the setting of theory. This consequently means that the outcome is coherent with prior knowledge. The theory provided three factors, of which it proved corruption to be significant in affecting compliance. It did not consider any other factors. The outcome of the study is that the corruption–compliance relationship possesses no causal effect. It can thus be argued that another factor or factors might affect compliance. This outcome is argued by studies in the literature review as well. It thus appears to not be consistent with existing theory, but existing theory left out many variables. It is consistent with knowledge from the literature review, as it implies many other factors that might affect compliance.

**Overview: Explanatory analysis: Hill's criteria**

| Explanatory analysis: Hill's criteria | | |
|---|---|---|
| **Hill's criterion** | **Usable for analysis** | **Brief description of criterion applied** |
| Temporal relationship | No | By looking at the research question, the X- and Y-variable are determined as respectively corruption and compliance |
| Consistency | No | The changing of settings does not apply, because this study is not a comparative research |
| Plausibility | No | As required is a theory provided on the relationship between the variables |
| Experiment | No | Conditions of for instance the X-variable or the kind of treaty, are able to be altered |
| Strength | Yes | The relationship between the variables is not strong, thus corruption as a singular factor is not significant in affecting compliance |
| Dose–response relationship | Yes | It looks to identify when the level of corruption being higher, the lower the degree of compliance is. This relationship is not supported. *Intertwined with criterion: strength* |
| Consideration of alternative explanations | Yes | Alternative explanations are both considered and not considered. Alternative findings in results are not overlooked, but alternative variables representing the X are deliberately left out |
| Specificity | Yes | Corruption as a single cause does not produce a specific effect. *Intertwined with criteria: strength and dose–response relationship* |
| Coherence | Yes | The relationship is not coherent with existing theory, but it is coherent with existing knowledge from the literature review |

**Table 29: Overview: Explanatory analysis: Hill's criteria (based on Ch. 7.2.3)**

## 7.3 – Discussion of findings

This study has attempted to isolate the phenomenon of compliance in only the wildlife part of the Convention. It has attempted to address an affecting factor to it and it attempted then to assess its effect. The level of corruption is considered by the analysis as an insignificant factor affecting the degree of compliance. The analysis thus suggested the existence of a multifactorial whole that might affect the degree of compliance. This multifactorial whole might in fact be so large that it might not even be possible to comprehend it.

Furthermore, it can also be argued that the phenomenon compliance might be too broad in nature to be able to analyze. The monitoring of international trade in wildlife is more complex than it seems. It is more than just 'officials opening a suitcase at the airport and checking its content for illegal products'. Monitoring international trade also comprises, for instance, creating organizations to serve as rescue centers, or implementing periodic reports to create a database about the international trade.

Does the approach in this study work? It does up to certain point. The study proved that corruption as a singular factor does not affect the degree of compliance of the Convention. At the same time, the suggestion surfaced that there might be many more factors that affect the degree of compliance. Maybe even too many factors! This consequently means that it is questionable whether it is possible to isolate the phenomenon. It is the responsibility of further research to look into both suggestions. It should investigate many more factors as well as investigating whether the phenomenon can be isolated.

# 8 – Conclusion and other aspects

The final chapter begins with the conclusion, including answers to both sub–questions and the research question and in addition the 'take home message'. Next, in section 8.2 the opportunities for further research are presented. This is followed by acknowledging the limitations of the study in section 8.3. The chapter closes with the policy implications.

## 8.1 – Conclusion

The conclusion begins with answering both the sub–questions. The answers of those questions are used to address the research question.

**Sub–Q1: What is the level of corruption of each country?**

The level of corruption among the countries is established by using two standards that are intertwined with each other. The first standard is the level of corruption according to Transparency International. The second standard is the level of corruption according to theory of Treisman and World Bank data.

The first standard represents the main way to establish the level of corruption. The standard uses actual numbers that represent what the level of corruption is in a country. These numbers on the level of corruption are provided by Transparency International. Transparency International is a global movement with a database that consists of data from over 100 countries. It is therefore considered the best option available to establish the levels of corruption. Transparency International provides a yearly updated database with an index of scores ranging from 0 to 100. The former represents a country with a high level of corruption and the latter represents a country with a low level of corruption. It results in the following average corruption scores, linked with the selection of cases:

1. Myanmar 16.25
2. Kenya 24.25
3. Vietnam 29.5
4. Tanzania 31.25
5. India 34
6. Thailand 35.25
7. China 37.5
8. South Africa 42.47
9. Hong Kong 80

The second standard represents the level of corruption based on 'the state of economic development in a country'. The outcomes of the previous standard would have led to result–based conclusions. It is thus necessary to theoretically categorize the scores that are provided by Transparency International. The applied theory, 'the state of economic development in a country', is provided by Treisman. The theory enables us to categorize corruption based on GDP PPP in USD. The concepts within GDP PPP stem from the World Bank, resulting in the following ranking of average scores:

1. Myanmar 3,973.775 USD Low income
2. Kenya 2,668.075 USD Low income
3. Vietnam 4,853.125 USD Low income
4. Tanzania 2,245.525 USD Low income
5. India 4,784.775 USD Low income
6. Thailand 14,313.0 USD Upper middle income
7. China 10,859.15 USD Middle income
8. South Africa 2,361.45 USD Middle income
9. Hong Kong 50,489.95 USD High income

**Sub–Q2: How have the countries translated the international commitments into their domestic level playing field –degree of compliance–?**

The second sub–question asks how countries have complied with the Convention; it represents the degree of compliance. Table 28, together with the descriptive analysis, is used to answer this question. The descriptive analysis divided the results of Table 28 into two categories. One category represents the results that vary 'little or none' when the countries are compared with each other. The second represents the results that vary 'substantially' when the countries are compared to each other.

Eight indicators out of the possible seventeen show results that vary 'little or none' when the countries are compared. The degree of compliance of countries with the Convention was at the same level among all of them.

The remaining indicators, with the exception of the 'public availability' indicator, show results that vary 'substantially' when the countries are compared. Five of those indicators show results that occur in a random pattern among the countries. This consequently means that no explanation is possible for why these degrees of compliance differ substantially among the countries. One indicator of implementing measures of return is better complied with in the countries with higher levels of corruption. The results of the remaining two indicators of fines and the number of created MAs can be explained by a corruption–compliance relationship, although some cases do not fit the pattern. The results of those two indicators can as well be explained by another pattern. It is an explanation that suggests that Asian countries in general comply higher than the African countries do. It can thus be considered to have geographical explanation as well.

*The sub–questions addressed, it is time to answer the research question.*

**R.Q.: Is the level of corruption a significant factor in the non–compliance of countries, in the CITES international agreement?**

The hypothesis of the study would lead us to expect that the lower the level of corruption of a country is, the better the degree of compliance is with the Convention, and vice versa. The seventeen analyzed indicators show that the level of corruption as a singular factor is insignificant in affecting the degree of compliance.

The ranking of level of corruption in Table 28 *should* have shown that countries with high levels of corruption comply less with the CITES responsibilities than the countries with low levels of corruption. However, this proved to not be the case.

Half of the observed indicators on compliance with the Convention show results that vary 'little or none' regardless to what the level of corruption is in the country. No differences in results among the cases mean that the hypothesis cannot be supported.

The remaining indicators, with the exception of the indicator 'public availability', show results that have 'substantial' variance among the countries, but most of them do not support the expected relationship of the hypothesis. The indicator 'implementing measures of return of confiscated species' even shows a pattern opposite to that of the hypothesis. It showed that the countries with higher levels of corruption generally comply better with the Convention than do countries with lower levels of corruption. The two indicators that do show some correlation between the two variables are the indicators 'fines' and 'number of created MAs' in a country. They match the expected pattern, although some cases still stand out. An open mind to alternative explanations for substantial differences in results produced another explanation. The substantial differences in results of the indicators of fines and number of created MAs in a country can as well be explained by a geographical pattern. The pattern suggests that Asian countries in general comply higher with the Convention than African countries do.

Is the level of corruption as a singular factor thus significant in affecting blokage of compliance of countries (?); No. Half of the indicators show results that vary little or none in

results when the countries are compared with each other. This means that half of the indicators do not support the expected corruption–compliance relationship. The remaining indicators that vary substantially in results when the countries are compared to each other, generally do not back up the expected relationship, either. Two indicators show some support for the corruption–compliance relationship, but two indicators out of seventeen are not enough to establish a causal relationship. Moreover, the substantial differences in results of these two indicators can to a certain extent also be explained by an alternative explanation, namely geographical nature instead of level of corruption.

As a singular factor, the level of corruption does not affect countries' non–compliance with the Convention, but there are no conclusive results about its being part of a multifactorial whole. *Continued in 'further research'*.

**The 'take home message'**

Referring back to section 2.1, shows the literature review to be quite fragmented. Many different topics are discussed with references to CITES, compliance or corruption, instead of describing the three concepts combined. It proved to be rather difficult to find such studies combining the three, besides the one of Ferraro (2005).

Out of the analyzes and the conclusion came two things: One, the level of corruption as a singular factor does not affect the countries' non–compliance with the Convention and two, the suggestion that the phenomenon addressed in this study is perhaps to broad. There are many aspects needed to be studied, that range in many different directions. It consequently means that can be questioned whether the monitoring of international trade in wildlife is too complex. Because of this, it makes thus sense that besides the study of Ferraro (2005) no other studies are able to found that cover the Convention as extensive done in this study. On the other hand, are many studies to be found that narrow down the phenomenon. These studies are the ones of Heppes and McFadden (1987:pp.232–233) on Article VIII, Paragraph 6 of the Convention and Reeve (2006:pp.882–885) on Article VIII, Paragraph 7 of the Convention.

What is thus the contribution of this study's outcome? Up front, the level of corruption as a singular factor does not affect the countries' non–compliance with the Convention. Secondly, the study contributes to the literature on the subject. It was in the beginning rather difficult to find studies that covered the whole Convention. Other studies showed to focus only on parts of the Convention and parts of the key concepts. By the end of this study, a suggestion emerged into why it is fragmented. Namely; the phenomonen might be too broad and complex to comprehend. Other researcherchers, without stating explicetly, determined this probably already. The literature review showed that the subject is already narrowed down multiple times. This study suggests, as other researchers already have done, to narrow down the phenomenon as well.

In the orientation phase of this study was this insight unclear. Throughout the proces emerged this notion and can the fragmented literature review thus be explained. Functioning as important insight that explicitly mentions to narrow down the phenomenon.

## 8.2 – Further research

The compliance of countries might be affected by multiple factors, as is suggested by other studies consulted in the literature review. The factors cited range from shortage of personnel, mentioned by Heppes and McFadden (1987), to lack of funding, to lack of expertise, to communication issues, mentioned by Fuller et al. (1986), and many more. This study deliberately chose to thoroughly analyze one factor instead of generally analyzing multiple factors, because of time– and resource limitations, *as discussed in the next section*. The analysis produced the conclusive result that corruption as a singular factor is insignificant in affecting compliance. This extensive and detailed kind of study about the corruption–compliance relationship had not previously been done by others.

What is thus interesting for further research? The studied field misses research that analyzes all the factors that could possibly affect the compliance with the Convention. Corruption as a singular factor is insignificant in affecting compliance. Further research should thus look at what factor or factors might be significant in affecting compliance. Many other studies attempted to analyze multiple factors, but are more definitive research is necessary. Such research is possible, due to the number of possible factors affecting compliance.

A second opportunity for further research, which is intertwined with the former one as well, is to look further into the phenomenon of compliance with CITES wildlife regulations. This study attempts to isolate the phenomenon, but with so many factors possibly affecting compliance, it could be questionable as to whether it is too broad. Further research should thus as well look into if the compliance with the wildlife part of the Convention is too general.

## 8.3 – Limitations

The study experienced several limitations. The first limitation was the choice made to focus on just the wildlife part of the Convention instead of both flora and fauna. The second limitation deals with the number of possible affecting factors not taken into consideration. The remaining limitations are linked with the results of the study.

The aim of the Convention is to ensure that the international trade of wild animals and plants does not threaten their survival. The regulations in CITES Article VIII are sometimes meant for just wildlife and other times meant for both flora and fauna. The selection of cases for the study made it very difficult to properly select suitable cases on just the wildlife part of the Convention. It was even necessary to further specify within wildlife to be able to select proper cases showing affinity with illegal IWT. Elephants, rhinos and tigers were considered as suitable species out of the 5,600 to enable to proper select suitable cases. These three species are among the most popular ones in illegal trade and therefore constitute the largest source of information on illegal trade. Elephants, rhinos and tigers being the animals with the highest number of information on illegal trade make them suitable as selected cases.

Selecting the nine currently chosen cases proved to take a lot of effort, even based on only the wildlife part of the Convention. It would take a lot of more effort and time, to be able to select cases suitable for both legal and illegal flora and fauna, if that is possible. The topic of the study is thus deliberately focused on the wildlife part of the Convention, although the Convention is meant for both flora and fauna.

Second, the study was limited to analysis of only one factor in its effect on compliance with the Convention. Other studies in the literature review show that many other factors might exist in affecting the compliance of the countries. It is not possible, though, to analyze all of them, due to time and resource limitations. Besides, this study's analysis of corruption as a singular factor affecting compliance with the Convention is new. It therefore produces important and fresh insights into the matter.

The remaining limitations are linked with the results of the study.

First, the subjectivity of the researcher in assessing the results is seen as a limitation by Blatter and Haverland (2012:p.67). They argue that the scoring of indicators in small–N studies can be of somewhat subjective nature. Another researcher might thus have a different vision on what results are considered to be varying 'little or none' or 'substantially'.

Second, Hong Kong is considered by CITES as a separate party that complies with the Convention, though in certain data it is considered a dependent territory of China. The indicators of MAs, SAs and rescue centers find data collection on Hong Kong irrelevant in this context.

Third, it is sometimes inevitable that units of information in the results refer to both aspects of wildlife and plants of the Convention. For instance, Thailand's MA is called the 'CITES Office: Department of National Parks, Wildlife and Plant Conservation' and it deals

with both flora and fauna. It is not considered as a major obstacle, but it is an inconsistency worth mentioning.

Fourth, the database of the records of trade misses the following elements: the addresses of exporters, the number and type of permits and certificates granted and importers and the sex of the specimens. It is the database from CITES itself that does not produce these elements. It is regrettable that no pronouncements can be made on this topic, but the missing information cannot be attributed to the countries.

Fifth, it is unable to assess whether the annual reports created by the countries are complete or not. Again, it is due to CITES regulation that no data is able to be collected about the content of these reports.

Lastly, the analysis of biennial reports excludes years that fall outside the period studied. Biennial reports occur only once every two years. The time period 2010–2013 consequently enables us to analyze just one cycle, 2011–2012. The examining of one cycle does not represent a high quality analysis. Two other cycles are thus included for a proper analysis. These cycles correspond with the periods 2009–2010 and 2013–2013, and were specifically chosen for the fact that they still show affinity with the 2010–2013 period studied.

## 8.4 – Policy implications

A section on policy implications now concludes the chapter. Corruption as a singular factor does not affect the degree of compliance of countries within the Convention. However, CITES should not yet rule it out, as it could namely be part of a multifactorial whole affecting the compliance of countries. It should thus first conduct studies that consider many more variables that might affect compliance.

The second finding of the study suggests that the isolated phenomenon might be too broad. The regulations in the Convention comprehend many different directions countries need to comply with. Countries, for instance, need to maintain period reports and as well create organizations to take care of confiscated wildlife. The Secretary General of the CITES Secretariat recalls that: *"[t]he rubber hits the road* (Scanlon, 2014)*"*; in translating the international commitments into domestic actions. To combat this complex problem, need new policies and actions to be based on a more specific level. The regulations range too differently and more specifically monitoring means are required to study their effectiveness.

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# Appendices

## Appendix 1 – Convention on International Trade in Endangered Species of Wild Fauna and Flora: Article VIII: Measures to Be Taken by the Parties

Source: CITES, 1983

1. The Parties shall take appropriate measures to enforce the provisions of the present Convention and to prohibit trade in specimens in violation thereof. These shall include measures:

(a) to penalize trade in, or possession of, such specimens, or both; and
(b) to provide for the confiscation or return to the State of export of such specimens.

2. In addition to the measures taken under paragraph 1 of this Article, a Party may, when it deems it necessary, provide for any method of internal reimbursement for expenses incurred as a result of the confiscation of a specimen traded in violation of the measures taken in the application of the provisions of the present Convention.

3. As far as possible, the Parties shall ensure that specimens shall pass through any formalities required for trade with a minimum of delay. To facilitate such passage, a Party may designate ports of exit and ports of entry at which specimens must be presented for clearance. The Parties shall ensure further that all living specimens, during any period of transit, holding or shipment, are properly cared for so as to minimize the risk of injury, damage to health or cruel treatment.

4. Where a living specimen is confiscated as a result of measures referred to in paragraph 1 of this Article:

(a) the specimen shall be entrusted to a Management Authority of the State of confiscation;
(b) the Management Authority shall, after consultation with the State of export, return the specimen to that State at the expense of that State, or to a rescue center or such other place as the Management Authority deems appropriate and consistent with the purposes of the present Convention; and
(c) the Management Authority may obtain the advice of a Scientific Authority, or may, whenever it considers it desirable, consult the Secretariat in order to facilitate the decision under sub–paragraph (b) of this paragraph, including the choice of a rescue center or other place.

5. A rescue center as referred to in paragraph 4 of this Article means an institution designated by a Management Authority to look after the welfare of living specimens, particularly those that have been confiscated.

6. Each Party shall maintain records of trade in specimens of species included in Appendices I, II and III which shall cover:

(a) the names and addresses of exporters and importers; and
(b) the number and type of permits and certificates granted; the States with which such trade occurred; the numbers or quantities and types of specimens, names of species as included in Appendices I, II and III and, where applicable, the size and sex of the specimens in question.

7. Each Party shall prepare periodic reports on its implementation of the present Convention and shall transmit to the Secretariat:

(a) an annual report containing a summary of the information specified in sub–paragraph (b) of paragraph 6 of this Article; and
(b) a biennial report on legislative, regulatory and administrative measures taken to enforce the provisions of the present Convention.

8. The information referred to in paragraph 7 of this Article shall be available to the public where this is not inconsistent with the law of the Party concerned.

## Appendix 2 – Justification parameters CITES Trade Database

Source: CITES, 2017e

**Year–range parameter**

The first parameter is year–range and it is set at the years 2010 till 2013. The years that corresponded with the range used in the research of Patel et al. (2015).

**Exporting countries– and importing countries parameter**

The next two parameters are the 'exporting countries' and the 'importing countries'. In the illegal IWT section are the countries specified according to 'exporting country', 'importing country' or 'Intermediary country'. The exporting countries are: Kenya, Tanzania, South Africa and India. The importing countries are: Thailand, China, Hong Kong and Vietnam. Myanmar is the only case considered as an intermediary country. The approach to set the parameter is explained by using the exporting country Kenya, the importing country Thailand and the intermediary country Myanmar as examples.

Kenya is considered as an elephant exporting country. The parameter exporting countries is therefore set at Kenya and the importing countries parameter is set at 'All countries'. The parameters in this setting produce all the exporting data of Kenya. The same approach is used as well for the countries Tanzania, South Africa and India as other exporting countries.

Thailand as importing country, the parameters are set vice versa. The exporting countries parameter is set at 'All countries' and the importing countries parameter is set Thailand. The parameters in this setting produce all the importing data of Thailand. The same approach is used as well for the countries China, Hong Kong and Vietnam as other importing countries.

Myanmar as an intermediary country is an unique case. The CITES Trade Database does not enable to set the parameters by intermediary country. An intermediary country is nothing more, though, than a country that functions as a transit post for international trade, it comprehends thus both import and export. The parameters of Myanmar are thus set twice to retrieve data on both the import of the country and its export.

**Source parameter**

The source parameter deals with an extensive number of choices to set the parameter, they are: artificially propagated plants, captive–bred animals, captive–bred–artificially propagated, born in captivity, confiscations/seizures, pre–convention, ranched, source unknown and wild. Four of them are not used in retrieving data.

The first one is 'Artificially propagated plants'. It is a setting linked with the flora part of the Convention. The study focusses, though, on the fauna part of the Convention. It is thus not considered as a suitable setting.

The second one is 'Pre–Convention' . CITES itself does not provide an explanation on this setting. Without knowing what the definition of the setting is, it cannot be considered as suitable.

The third one is 'Source unknown'. It produces data of flora and/or fauna of which the origin is unknown to CITES. Data produced without a source are not considered as qualitative information, it is therefore left out.

The last one is 'Specimens taken in "the marine environment not under the jurisdiction of any State"'. The purpose of the study is to research the compliance of states with the Convention. A setting that produces data not linked with a state is therefore not suitable.

**Purpose parameter**

The purpose parameter produces data on why wildlife is traded among the countries. The choices to set the parameter are: breeding in captivity or artificially propagation, hunting trophy, law enforcement/judicial/forensic, reintroduction or introduction into the wild, circus and traveling exhibitions, medical (including biomedical research), scientific, educational,

personal and commercial and zoo. The ‘botanical garden’ is the only one not considered suitable because of its affinity with the flora part of the Convention.

**Trade–terms parameter**
The trade–terms parameter is the most extensive one as it includes a massive number of choices to set the parameter. The trade–terms–parameter provides information on the kind of products that can be traded. For instance, the choices range from bone carvings till leather items. The parameter is set at ‘All terms’. It consequently means that all products are considered, including the ones not relevant for wildlife as for example timber products. Why is chosen for the option ‘All terms’? The next parameter of ‘Search–by–taxon’ enables to retrieve data by specimen. It is thus possible to set the Search–by–taxon parameter at for instance elephants. The data retrieved are all products that stem from elephants. Products not related to elephants are automatically left out.

**Search–by–taxon parameter**
The search–by–taxon parameter enables to select data by species. The selection of cases focusses on elephants, rhinos and tigers and which can be divided into subspecies. The subspecies are selected based on their affinities with the countries.

*Elephants*[5]
- Loxodonta averlan (African Elephant)
- Elephas maximus (Asian Elephant)

*Rhinos*[6]
- Ceratotherium simum simum (Rhinocéros blanc du sud, Southern Square–lipped Rhinoceros, Southern White Rhinoceros, South Africa region)
- Ceratotherium simum cottoni (Rhinocéros blanc du North, Northern Square–lipped Rhinoceros, Northern White Rhinoceros, North Africa region)

*Tigers*[7]
- Panthera tigris (Bengal Tiger, Indian sub–continent)

[5] Two kinds of elephant for Kenya can of course only export a native African elephant. Thailand as Asian country, on the other hand, is able to import as well the Asian elephant. The category ‘elephant’ is therefore an comprehensive term for both species
[6] Two kinds of rhino for South Africa can of course only export its regional White Rhino. China, on the other hand,8 is able to import as well the Northern variant. The category ‘rhino’ is therefore an comprehensive term for both species
[7] The biggest common sup–species in the tiger family is the Bengal tiger (WWF, 2016). It is therefore considered as the most suitable one to use

## Appendix 3 – Details: Subindicator 1.1: Appropriate measures to: penalize trade or possession

**Myanmar**

Myanmar builds on existing acts to develop three new laws and rules to combat illegal IWT. The three new ones are: the Protection of Wildlife and Protected Areas Law of 1994, the Protection of Wildlife and Protected Areas Rule of 2002 and the Protected list of Wildlife of 1994. It is the first one that provides information regarding Myanmar's penalties (MONREC, 2015a).

The Ministry of Natural Resources & Environmental Conservation Forest Department (MONREC) in Myanmar uses the law to distinct three ways to penalize trade. The first one is article 35 that punishes hunting without a license, or farming of seasonally protected and protected species without permits. The second one is article 36 that punishes hunting/wounding of protected species. Articles 35 and 36 are not included because of their affinity with penalizing hunting instead of being concerned with trade. The last one is article 37 that punishes killing/hunting/possessing/selling/transporting/wounding/exporting of protected species without permission of the Director General. The corresponding penalties are up to seven years of imprisonment and/or a fine up to 50000 Kyats (±35 Euro)[8] (MONREC, 2015b).

**Kenya**

Kenya's penalties are determined by its Wildlife (Conservation and Management) Act of 1976 (WCMA). The WCMA distincts two scenarios of penalizing violations. The first scenario is the trade of illegal animals/products. The second scenario is the unauthorized hunting of an animal. The first scenario is the only relevant one as hunting shows no affinity the topic of the study (Library of Congress, 2015a).

The WCMA prohibits the import, export and transfer of animals and trophies. Penalties occur in either an 'offense' category or a 'forfeiture offense' category. Violations are considered as a forfeiture offense in the next scenarios: export of any live (game) animal[9] or bird without a permit, any trophy without certificate of ownership and any animal/trophy which is designated as prohibited from export in the absence of a permit. All other violations are considered as an offense violation (Library of Congress, 2015a).

The WCMA divides the penalties into two kinds of classes; these classes are specific– and general penalties. The general penalties are linked with the offense– and forfeiture offense categories. The general penalties are divided into four subclasses. The kind of general penalty given depends on the severity of the violation. The first subclass involves trade of protected animals listed in Part I of the First Schedule, such as an elephant, rhino, leopard or lion. The corresponding penalties are a fine up to 40000 KES (±360 Euro) and/or up to ten years of imprisonment. The second subclass involves trade of animals, or its trophies, listed in Part I of the First Schedule. The corresponding penalties are a fine up to 20000 KES (±180 Euro) and/or up to five years of imprisonment. These two subclasses are considered as forfeiture offenses. A forfeiture offense not covered by the above results is determined by the Kenyan court. The corresponding penalties are a fine up to 15000 KES (±135 Euro) and/or imprisonment up to three years. The last subclass of penalties is meant for an offense. The corresponding numbers involves a fine up to 1000 KES (±9 Euro) and/or six months of imprisonment (Library of Congress, 2015a).

**Vietnam**

The Penal Code of 1999, No.15, Article 190 on 'Breaching Regulations on the Protection of Precious and Rare Wildlife on the List of Endangered, Precious, and Rare Species Prioritized for Protection' describes the penalties given by Vietnam. The Act prohibits the hunting, killing, transporting and/or smuggling of animals. Article 190 was amended in 2009. The

[8] All currency calculations to Euros are done by using https://www.wisselkoers.nl/

[9] Game animals are defined as species that are often used for sport–hunting (EC, 2017)

amendments included were an increase of the height of the penalties. The height of a fine was in 1999 up to 50 million Vietnam Dong (VND) (±2050 Euro) or an imprisonment up to three years. The amendments increased these numbers and resulted in a fine up to 500 million VND (±20500 Euro) or an imprisonment up to seven years (Education for Nature, 2009).

**Tanzania**

The National Parks Act (NPA) of 2002 is the law in Tanzania that describes the penalties. The Act focusses on dealing in trophies and penalties of general application.

Dealing of trophies is prohibited in selling, buying, transferring, transporting, accepting and exporting or importing without a permit or with a permit but violating its terms. The corresponding penalties are up to two to five years of imprisonment and/or a fine twice the value of the involved trophy.

Penalties of general application are scenarios other than dealing of trophies. The corresponding penalties are a fine of up to 10000TZS (±4 Euro) and/or an imprisonment of up to one year (Library of Congress, 2015b).

**India**

The Ministry of Environment, Forest and Climate Change (MOEF) describes through the Wildlife (Protection) Act of 1972 the penalties in India. The Act was lastly amended in 2002. Ch. VI, Article 51 in the Act distincts three kinds of penalties (MOEF, 2017).

The first one is Article 51.1 and it describes two kinds of violations. The first violation is when a person breaches the conditions of the license or permit that has been granted. The corresponding penalties are a fine given up to 25000 Rupees (±360 Euro) and/or imprisonment up to three years. The second violation is trade of animal meat, animal products or trophies that are derived from a sanctuary of or a National Park. The corresponding penalties are a fine with a minimum of 5000 Rupees (±72 Euro) and an imprisonment of one to six years.

The other two categories are Articles 51.1A and 51.1B. They describe violations other than the ones in Article 51.1. The corresponding penalties with the former one are a fine with a minimum of 10000 Rupees (±144 Euro) and an imprisonment of three to seven years (Ministry of Law and Justice, 2003:p.29). The corresponding penalties with the latter one are a fine up to 2000 Rupees (±28 Euro) and/or an imprisonment up to six months (MOEF, 1991).

**Thailand**

The Wild Animals Reservation and Protection Act (WARPA) of 1992 regulates the penalties in Thailand. The WARPA does not distinct different kinds of violations. Ch. VIII, Section 47 of the Act sees possessing, importing, exporting and transiting of preserved and protected wildlife without a permit, on the same level of violation (Panyarachun, 1992:p.10). The penalties given are a fine between 40000 to 200000 Thai Baht (±1082–5408 Euro) and/or a three to ten years in prison (TRAFFIC, 2016:pp.6–18).

**China**

The Law of the People's Republic of China on the protection of Wildlife of 1988 describes the penalties given in China. The law was recently amended in 2016. The studied period, though, is 2010–2013 and it consequently means that the amendment is not taken into consideration.

Ch. IV, Article 31–39 of the Act mentions a variety of offensives. The corresponding penalties are not fixed numbers, though. The height of a fine is determined by China's Department of Wildlife Administration. The height of the fines can be quite a high number as it is possible to convict an individual according to the Criminal Law. The Criminal Law is applied when the circumstances are severe enough. It produces significantly higher penalties than the Law of the People's Republic of China on the protection of Wildlife does (China Development Gateway, 1988). It consequently means that the height of imprisonments can

add up for life because of the Criminal Law. China even included the death penalty before 2010 (CITES, 2013a).

While it is not possible to provide fixed numbers on the height of fines for they fluctuate, it is possible to give an example on the heights. For instance, three people were in 2011 penalized for smuggling rhino horn. China's Department of Wildlife Administration determined the height of the fines at up to 15000 USD (±13754 Euro) (Nowell, 2012:p.32).

**South Africa**

The National Environmental Management: Biodiversity Act (NEMBA) of 2004 regulates the penalties in South Africa. The NEMBA together with subsidiary legislation creates three kinds of penalties to be given in different circumstances.

The first category is the so–called 'Under NEMBA' penalty. It comprehends the violations: hunting, importing, exporting, possession, breeding, moving, selling or otherwise. The corresponding penalties are up a fine of 100000 South African Rand (SAR) (±7061 Euro) given and/or an imprisonment of up to five years. A violation that involves protected or threatened species is a fine given up to three times the value of the species.

The second category is the 'Under NEMBA regulations'. It comprehends violations in case of hunting. It is therefore not relevant to take into further consideration.

The last category is penalties of general application. It describes the minor violations that are not included in the other categories. The penalties given in case of violation are the revoking of a permit or the disqualifying of an individual to obtain one (Library of Congress, 2015c).

**Hong Kong**

The Agriculture, Fisheries and Conservation Department (AFCD) in Hong Kong regulates the penalties through the Protection of Endangered Species of Animals and Plants Ordinance –the Ordinance– of 2006 (AFCD, 2017a).

The Ordinance does not distincts different kinds of violations. The penalties given are a fine up to 5 million Hong Kong Dollars (±600 Euro) and an imprisonment for a time period of two years (AFCD, 2017b).

## Appendix 4 – Details: Subindicator 1.2: Appropriate measures to: provide for the confiscation or return

**Myanmar**
The United Nations Office on Drugs and Crime (UNODC) in a 'rapid assessment'–report assesses the implemented measures of confiscation in Myanmar. UNODC used data of Myanmar's Supreme Court of the Union to show the existence of confiscation measures. The data consists of seized items of both species and products in violation with the Convention's regulations (UNODC, 2015:p.20).

The International Fund for Animal Welfare (IFAW) recorded as well measures of return in Myanmar. IFAW recorded the returning of 411 endangered tortoises from Myanmar to their place of origin in Madagascar. The tortoises were illegally being traded to China. The Malaysian authorities were able to detect and confiscate them, after which the repatriation process started (IFAW, 2010).

**Kenya**
TRAFFIC made an assessment between 2010–2014 on Kenya's wildlife protection and trafficking measures. It analyzed thousands of kilograms of elephant ivory confiscated by Kenyan authorities (Weru, 2016:p.23).

The measures of return prove to exist as well in Kenya. Kenya possessed by 2010 tons of contraband ivory. The Kenyan authorities made in Nairobi two decisions to deal with the contraband ivory. The first decision was to burn the ivory to provide a message for the poachers that poaching does not pay off. The second decision included the repatriation of the contraband to Malawi and Zambia. The ivory was returned for both educational– and prosecution purposes (Mnyamwezi, 2011).

**Vietnam**
In Vietnam it is the Forest Protection Department that is responsible for implementing measures of confiscation. A CITES reports reviewed Vietnam's wildlife trade policy by using records between 1997 till 2007. The records consist of the Department's records of measures of confiscation of wild fauna (CITES, 2008:p.14).

An example from 2007 in the city Hung Yen proves the existence of measures of return in Vietnam as well. In 2007, provincial rangers confiscated in total 218 kg. of wildlife. The confiscated species and products ranged from turtles to water dragons. The life specimens were first transferred to one of Vietnam's rescue centers. It provided the Vietnamese authorities time to proper start the returning process of the confiscated wildlife to their place of origin (Education for Nature, 2007:p.3).

**Tanzania**
In Tanzania proves a document of TRAFFIC on illegal trade in ivory and rhino horn the existence of measures of confiscation. TRAFFIC recorded between 2009 and 2013 the confiscation of 500 kg. of ivory in the countries of Kenya, Tanzania and Uganda combined. The records include thus data from three countries, it does not take away the fact that Tanzania implemented measures of confiscation (Milliken, 2014:p.7).

A news article produced by Durant (2016) proves as well the existence of measures of return in Tanzania. Durant describes the confiscation of three cheetahs by Tanzanian authorities in Arusha 2011. It took the authorities more than a week to return the cheetahs to their place of origin, because the cheetahs were in a very bad condition. It is unable to find an example that proves the existence of measures of return earlier than 2011.

**India**
The WWF (2014) produced in 2014 a newsletter including India's records on numerous examples of confiscations over the past years. One examples stems from 2003 were dried shark fins were confiscated, another one stems from 2007 were ivory was confiscated.

Information about the measures of return in India is unable to be found. It consequently means they are considered as not to exist and India thus not complies with this regulation of the Convention.

**Thailand**

The Environmental Investigation Agency (EIA) collected since 2010 records of Thai confiscation measures. The records included for instance: eighteen tones of ivory, 147.86 kg of rhino horn, 215 tigers and over 2600 pangolins. The measures of confiscation in Thailand are thus proven to exist (EIA, 2010:p.1).

A news item by News24 (2015) proves by using an example of orangutans the existence of measures of return in Thailand as well. The news item describes that in Phuket 2010 thirteen orangutans were found in cages alongside the Thai roads. The animals were firstly placed in one of Thailand's recue centers; it enabled the Thai authorities to start the repatriation process. It succeeded Thailand to return to orangutans back to Indonesia as state of origin by 2015. It took five years because for unknown reasons the Indonesian authorities did not accept the orangutans back. Nevertheless, the measures of return were started by Thailand in 2010, consequently proving their existence.

**China**

MacDonald, Newman and Buesching (2016) studied the measures of confiscation in China. They studied the customs records of confiscated wildlife in China in the period 2010–2015.

Information about the measures of return in China is unable to be found. It consequently means they are considered as not to exist and China thus not complies with this regulation of the Convention.

**South Africa**

The Department of Environmental Affairs Republic of South Africa (2010:p.3) provides records on measures of confiscation through a report on South Africa's National Strategy for the Safety and Security of 2000. The data describes measures of confiscation concerning the species of Rhinoceros between 2000 and 2010.

Information about the measures of return in South Africa is unable to be found. It consequently means they are considered as not to exist and South Africa thus not complies with this regulation of the Convention.

**Hong Kong**

A CNN news article covers a story about confiscated ivory in Hong Kong. The article describes the confiscation of six tons of ivory in the first half year of 2013; a number twice than the one of 2007 (Shadbolt, 2013). Measures of confiscation prove thus to be around for some years in Hong Kong.

The measures of return in Hong Kong can be found back to 2006. Hong Kong repatriated thirty–four pond turtles to their state of origin (Casey, 2006).

## Appendix 5 – Details: Indicator 2: Designation of ports of exit and –entry

**Myanmar**
Myanmar developed recently a customs that corresponds with the CITES regulations. Myanmar, together with WWF and TRAFFIC, organized on 4–5 August 2015 the Capacity Building Training on CITES Implementation and Combating Wildlife Crime. The training was meant for officials of air– and land–based ports, to create ports of exit and –entry in line with CITES regulation. The trainings were given after the studied period 2010–2013. Myanmar thus does not comply with the Convention in designating airports and land–based ports.

Myanmar on the other did create seaports in line with CITES regulations. A document form 2008 provided information on ports and shipping in Myanmar. The information ranged from documents needed for shipping of goods till the mentioning of two seaports. The two seaports that are in line with CITES regulations are the port of Yangon and the Myanmar International Terminal Thilawab (Logistics Cluster Myanmar, 2008:p.1).

**Kenya**
The Kenyan House in a Q&A session provides prove for the existence of ports of exit and –entry in Kenya. The Kenya National Assembly record includes the Q&A of various ministers. One of the questioned ministers was from the Ministry of Forestry and Wildlife. While the minister itself was absent, his assistant –Mr. Nanok– functioned as a stand in. The questions addressed were concerned about poaching; specifically what measures were implemented to combat the increased poaching over the last period –question c–. Mr. Nanok answers the question by implementing increasing patrol surveillance and checks of all the ports of exit and –entry: air–, sea– and land–based. The answer consists of a reinforcement of current authorities, it consequently means these authorities already exist preceding the Q&A session of 2010 (Kenya National Assembly, 2010:p.5).

**Vietnam**
A news report by TRAFFIC (2010) describes how the Viet Nam's Ministry of Agriculture and Rural Development (MARD) together with the Civil Aviation Administration of Viet Nam launched a certain training program for airports. This Wildlife Trade Regulation Course trains numerous airports staff and it enables them to reach the required level of expertise. The news report does not describe the creation of an airport in line with CITES regulations, but it does describe an enforcement measure. Enforcement consequently means the port thus already exists before 2010.

The land–based ports in Vietnam do not exist. A report by WWF of 2012 mentions an example in which illegal trade between Laos and Vietnam is able due to the absence of land–based ports. A Vietnamese journalist questioned a Laotian trader of tiger bone medicine from Laos to Vietnam. The trader acknowledges that the trade over land is easy to done due to the absence of land–based ports (Nowell, 2012:p.15). This variant of ports is been implemented by Vietnam by 2017. Vietnam together with Save Vietnam's Wildlife started in December 2014 with trainings to train border– and customs officials. The training enabled to the Vietnamese land–based ports with the required level of expertise asked by CITES (ASEAN–WEN, 2014). But, the training falls outside the period studied and it cannot thus be taken into consideration.

The seaports in Vietnam are around before the studied period of 2010–2013. A news article by Tuoi Tre News –the news gateway of Vietnam– describes the numerous cases of recorded smuggling by the Vietnam Wildlife Conservation Society. The cases were studied over the period 2010–2015 in seaports like one in Ho Chi Minh (TUOI TRE NEWS, 2016).

**Tanzania**
Leader–Williams and Tibanyenda (1996:p.37) mention two decades ago the existence of two international airports as ports of exit and –entry in Tanzania. These two airports are: Dar es Salaam and Kilimanjaro near Arusha. At all times a member of the Tanzanian Anti–Poaching Unit is present at these airports, it controls every shipment passing through.

A CITES document (2012:p.22) on the interpretation and implementation of the treaty in Tanzania mentions the creation of seaports in line with the Convention. The report cites data of the Elephant Trade Information System (ETIS) consisting of the registration of large–scale ivory seizures by Tanzanian seaports in the period 2009–2011.

The Beeswax Fund of 1993 funds the land–based ports in Tanzania. The funding enables to sponsor various programs to protect wildlife. One of these sponsored programs was the Pasiansi Wildlife Training Institute (PWTI) (CITES, 2005:p.6). The center is the central point in Tanzania for appropriate level of training of officials. The kind of officials range from wildlife management till the officials needed for the land–based ports (PWTI, 2017).

**India**

A report by MOEF (2009:p.6) contains information regarding the designation of air– and seaports in India. Ch. 1, paragraph 1.3.3 of the report mentions special conditions for the import and export at airport custom points at Mumbai, Kolkata, Delhi, Chennai, Cochin, Amritsar and Tuticorin. Special conditions that are in line with CITES provisions. Ch. 2, paragraph 2.26 mentions the same point for seaports. Both ports consequently exist in India (MOEF, 2009:p.11).

The Indian Government collaborates with the Wildlife Protection Society of India (WPSI) to provide –among other things– workshops and trainings for officers of land–based customs. They have been doing this since 1994 (WPSI, 2017).

**Thailand**

A report by CITES (2012:p.20) describes the existence of a designated airport and seaport of entry and –exit in Thailand. The report stresses a major improvement in recent years of enforcement performance of Bangkok's international airport and –seaport. The statement stems from 2012 and as it mentions a reinforcement done in recent years before 2012, it can thus be concluded that the Thai airport and seaport exist before 2010–2013.

A newsletter by CITES (2002:p.13) assesses the land–based ports in Thailand. The newsletter describes the training of borders inspectors to improve the implementation of CITES in Thailand. The success of these trainings demonstrates the effectiveness of the border inspectors and therefore the success of CITES implementation as well.

**China**

The Law of the People's Republic of China on the protection of Wildlife of 1988 describes the designation of ports of exit and –entry in China. The law contains various regulations, one of them on 'Animals and plants, animal and plant products, microbes, biological products, human tissues, blood and blood products'. This specific regulation forbids these kinds of products to bring through China's customs: air–, sea– and land–based. The General Administration of Customs People's Republic China (GACC) is appointed to deal with this regulation (GACC, 2017).

**South Africa**

A news article by the Coalition Against Wildlife Trafficking (CAWT) describes the designation of an airport in South Africa. It describes the case of a Vietnamese who got caught at Johannesburg Tambo International Airport in 2010. The individual tried to smuggle 16 kilos of rhino horn out of the country, but officials at the airport were able to catch him (CAWT, 2010).

The seaports in South Africa are under jurisdiction of the South African National Ports Authority. The Authority arranges the functioning and infrastructure of eight commercial seaports in South Africa, for instance the Durban seaport. The National Ports Act of 2005 describes the legislative and regulatory environment in which the Authority operates. It is responsible for the safe, effective and efficient running of the customs at those seaports (Scott, 2016:p.18).

The ENews Channel Africa (ENCA) describes in a news article about wildlife trafficking the existence of land–based ports in South Africa. It mentioned the number of

Rhino horns seized by land–based ports and airports in the period 2006 till 2015 (Ackroyd, 2016).

**Hong Kong**

Lastly, the Customs & Excise Department (2017) is responsible in Hong Kong for the suppression of smuggling activities. The activities included are for example the monitoring of the import and export and checking of the licensing of goods through airports. It is as well responsible for the smuggling at sea. It represents the customs' seaport in collaboration with Hong Kong's Marine Joint Task Force.

The Customs & Excise Department is as well responsible for the land–based ports in Hong Kong. One of these ports is the Shenzhen Bay Control Point (Immigration Department, 2017).

## Appendix 6 – Details: Subindicator 3.1: Management Authority(ies)

The details regarding the presence and number of MAs in countries are shown through the mean of tables. Tables enable through one graphical image to oversee all the results at once. The same method is applied in Appendix 7 regarding SAs and Appendix 8 regarding rescue centers.

**Myanmar**

| **Management Authority present & number** | | | |
|---|---|---|---|
| **MA year of creation** | – Forest Department, Ministry of Environmental Conservation and Forestry (1997)* | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 30: Management Authority present & number – Myanmar (* IISC, 2017:p.338) / (** CITES, 2014a)**

**Kenya**

| **Management Authority present & number** | | | |
|---|---|---|---|
| **MA Year of creation** | – Kenya Wildlife Service (1990)* | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 31: Management Authority present & number – Kenya (* CATCA, 2010) / (** CITES, 2014b)**

**Vietnam**

| **Management Authority present & number** | | | |
|---|---|---|---|
| **MA Year of creation** | – Viet Nam CITES Management Authority: Ministry of Agriculture and Rural Development (MARD) (2007)*<br>– Southern Representative Office of CITES Management Authority (1997)** | | |
| **Management Authority present***** | | **Management Authority number***** | |
| **2010** | Yes | **2010** | 2 |
| **2011** | Yes | **2011** | 2 |
| **2012** | Yes | **2012** | 2 |
| **2013** | Yes | **2013** | 2 |

**Table 32: Management Authority present & number – Vietnam (* MARD, 2017) / (** Raiffeisen Bank International, 2017) / (*** CITES, 2014c)**

**Tanzania**

| Management Authority present & number | | | |
|---|---|---|---|
| **MA Year of creation** | – Tourism Hunting, CITES and Photographic Tourism Office: Wildlife Division: Ministry of Natural Resources and Tourism (2008)* | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 33: Management Authority present & number – Tanzania (* Ministry of Natural Resources and Tourism, 2017a) / (** CITES, 2014d)**

**India**

| Management Authority present & number | | | |
|---|---|---|---|
| **MA Year of creation** | – Wildlife Crime Control Bureau (Northern Region) (2006)*<br>– Wildlife Crime Control Bureau (Southern Region) (2006)*<br>– Wildlife Crime Control Bureau (Eastern Region) (2006)*<br>– Wildlife Crime Control Bureau (Western Region) (2006)* | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 4 |
| **2011** | Yes | **2011** | 4 |
| **2012** | Yes | **2012** | 4 |
| **2013** | Yes | **2013** | 4 |

**Table 34: Management Authority present & number – India (* The Hindu, 2012) / (** CITES, 2014e)**

**Thailand**

| Management Authority present & number | | | |
|---|---|---|---|
| **MA Year of creation** | – CITES Office: Department of National Parks, Wildlife and Plant Conservation (2002)*<br>– Department of Agriculture: Plant Varieties Protection Office (1999)**<br>– Fisheries Resources Conservation Division: Department of Fisheries (1992)*** | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 3 |
| **2011** | Yes | **2011** | 3 |
| **2012** | Yes | **2012** | 3 |
| **2013** | Yes | **2013** | 3 |

**Table 35: Management Authority present & number – Thailand (* Bangkok Post, 2016) / (** WIPO, 1999) / (*** Geronimo and Daniel, 1997:p.88) / (**** CITES, 2014f)**

**China**

| Management Authority present & number | | | |
|---|---|---|---|
| **MA Year of creation** | – Beijing Branch: The Endangered Species Import and Export Management Office of the People's Republic of China (1981)*<br>– Chengdu Branch of the: Endangered Species Import and Export Management Office of the People's Republic of China (1981)*<br>– Fuzhou Branch of the: Endangered Species Import and Export Management Office of the People's Republic of China (1981)*<br>– Guangzhou Branch of the: Endangered Species Import and Export Management Office of the People's Republic of China (1981)*<br>– Shanghai Branch of the: Endangered Species Import and Export Management Office of the People's Republic of China (1981)*<br>– Tianjin Branch of the: Endangered Species Import and Export Management Office of the People's Republic of China (1981)*<br>– Agriculture, Fisheries and Conservation Department: Hong Kong Special Administrative Region (1984)**<br>– Foreign Trade Management Department: Economic Services (1982)*** | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 8 |
| **2011** | Yes | **2011** | 8 |
| **2012** | Yes | **2012** | 8 |
| **2013** | Yes | **2013** | 8 |

**Table 36: Management Authority present & number – China (* Tianbao, 2015:p.412) / (** Eagles et al., 2001:p.50) / (*** Ministry of Commerce People's Republic China, 2010) / (**** CITES, 2014g)**

**South Africa**

| Management Authority present & number | | | |
|---|---|---|---|
| **MA Year of creation** | – Department of Environmental Affairs (1996)* | | |
| **Management Authority present**** | | **Management Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 37: Management Authority present & number – South Africa (* Department of Environmental Affairs and Tourism Republic of South Africa, 2002: Appendix 3, Table A3) / (**CITES, 2014h)**

***Hong Kong***

*According to CITES (2014i) is Hong Kong sometimes considered as a separate member of the Convention and sometimes as a dependent territory of China. Regarding the regulation on MAs in a country, as well as SAs and rescue centers, Hong Kong relies on the efforts of mainland China. It is thus unable to provide any information on MAs, SAs and rescue centers, as Hong Kong is not a separate member of the Convention in these scenarios.*

## Appendix 7 – Details: Subindicator 3.2: Scientific Authority(ies)

### Myanmar

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – Nature and Wildlife Conservation Division (1990) *<br>– Department of Fisheries, Ministry of Livestock and Fisheries (1995)** | | |
| **Scientific Authority present*** ** | | **Scientific Authority number*** ** | |
| **2010** | Yes | **2010** | 2 |
| **2011** | Yes | **2011** | 2 |
| **2012** | Yes | **2012** | 2 |
| **2013** | Yes | **2013** | 2 |

Table 38: Scientific Authority present & number – Myanmar (* Instituto Oikos and BANCA, 2011:p.5) / (** Food and Agriculture Organization of the United Natios, 2012) / (*** CITES, 2014a)

### Kenya

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – Kenya Wildlife Service (1990)*<br>– National Museums of Kenya (NMK) (2006)** | | |
| **Scientific Authority present*** ** | | **Scientific Authority number*** ** | |
| **2010** | Yes | **2010** | 2 |
| **2011** | Yes | **2011** | 2 |
| **2012** | Yes | **2012** | 2 |
| **2013** | Yes | **2013** | 2 |

Table 39: Scientific Authority present & number – Kenya (* CATCA, 2010) / (** National Museums of Kenya, 2016) / (*** CITES, 2014b)

### Vietnam

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – Institute of Ecology and Biological Resource (IEBR): Viet Nam Academy of Sciences and Technology (VAST) (1990)*<br>– Vietnamese Academy of Forests Sciences: Ministry of Agriculture and Rural Development (MARD) (2007)**<br>– Research Institute for Marine Fisheries (RIMF): Ministry of Agriculture and Rural Development (MARD) (1997)***<br>– Centre for Natural Resources and Environmental Studies (CRES): Viet Nam National University (1985)**** | | |
| **Scientific Authority present***** ** | | **Scientific Authority number***** ** | |
| **2010** | Yes | **2010** | 4 |
| **2011** | Yes | **2011** | 4 |
| **2012** | Yes | **2012** | 4 |
| **2013** | Yes | **2013** | 4 |

Table 40: Scientific Authority present & number – Vietnam (* Vietnam Academy of Science and Technology, 2017) / (** MARD, 2017) / (*** Ministry of Fisheries and World Bank, 2005:p.1) / (**** CRES, 2017) / (***** CITES, 2014c)

**Tanzania**

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – Tanzania Wildlife Research Institute (TAWIRI) (2002)* | | |
| **Scientific Authority present**** | | **Scientific Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 41: Scientific Authority present & number – Tanzania (* Ministry of Natural Resources, 2017b) / (** CITES, 2014d)**

**India**

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – Zoological Survey of India (1916)*<br>– Botanical Survey of India (1890)**<br>– Central Marine Fisheries Research Institute (1947)***<br>– Wildlife Institute of India (1982)****<br>– Institute of Forest Genetics and Tree Breeding (1987)*****<br>– *The first three organizations are already existing organizations preceding India's membership to CITES. They simply adopted regulations into their existing framework after India became member in 1976* | | |
| **Scientific Authority present****** | | **Scientific Authority number****** | |
| **2010** | Yes | **2010** | 5 |
| **2011** | Yes | **2011** | 5 |
| **2012** | Yes | **2012** | 5 |
| **2013** | Yes | **2013** | 5 |

**Table 42: Scientific Authority present & number – India (* ZSI, 2017) / (** BSI, 2017) / (*** CMFRI, 2017) / (**** WII, 2017) / (***** BGCI, 2017) / (****** CITES, 2014e)**

**Thailand**

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – CITES Office: Department of National Parks, Wildlife and Plant Conservation (2002)*<br>– Department of Agriculture: Plant Varieties Protection Office (1999)**<br>– Fisheries Resources Conservation Division: Department of Fisheries (1992)*** | | |
| **Scientific Authority present**** | | **Scientific Authority number**** | |
| **2010** | Yes | **2010** | 3 |
| **2011** | Yes | **2011** | 3 |
| **2012** | Yes | **2012** | 3 |
| **2013** | Yes | **2013** | 3 |

**Table 43: Scientific Authority present & number – Thailand (* Bangkok Post, 2016) / (** WIPO, 1999) / (*** Geronimo and Daniel, 1997:p.88) / (**** CITES, 2014f)**

**China**

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – The Endangered Species Scientific Commission of the People's Republic of China: Institute of Zoology: Chinese Academy of Science (1962)*<br>*– The organization is an existing one preceding China's membership to CITES. It simply adopted regulations into their existing framework after China became member in 1981* | | |
| **Scientific Authority present**** | | **Scientific Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 44: Scientific Authority present & number – China (* IOZ, 2017) / (** CITES, 2014g)**

**South Africa**

| Scientific Authority present & number | | | |
|---|---|---|---|
| **SA Year of creation** | – Department of Environmental Affairs (1996)* | | |
| **Scientific Authority present**** | | **Scientific Authority number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 45: Scientific Authority present & number – South Africa (* Department of Environmental Affairs and Tourism Republic of South Africa, 2002: Appendix 3, Table A3) / (**CITES, 2014h)**

***Hong Kong***

*Dependent territory of China.*

# Appendix 8 – Details: Subindicator 3.3: Rescue center(s)

## 8.1 – Rescue center(s) under SSN

### Kenya

| **Rescue center present & number** | | | |
|---|---|---|---|
| **RC Year of creation** | – Ol Pejeta conservancy (1988)* | | |
| **Rescue center present**** | | **Rescue center number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

Table 46: Rescue center present & number – Kenya (* Ol Pejeta Conservancy, 2017) / (** SSN, 2017b)

### Vietnam

| **Rescue center present & number** | | | |
|---|---|---|---|
| **RC Year of creation** | – Save Vietnam Wildlife (2005)*, collaborated from:<br>– Asian Pangolin Conservation Program (APCP) &;<br>– Small Carnivore Conservation Program (SCP)<br>– Endangered Primate Rescue Center (1993)**<br>– Phong Nha Rescue Center (2007)***<br>– The Turtle Conservation Center (TCC) (1998)****<br>– Vietnam Bear Rescue Centre (Animals Asia Foundation) (1997)***** | | |
| **Rescue center present****** | | **Rescue center number****** | |
| **2010** | Yes | **2010** | 5 |
| **2011** | Yes | **2011** | 5 |
| **2012** | Yes | **2012** | 5 |
| **2013** | Yes | **2013** | 5 |

Table 47: Rescue center present & number – Vietnam (* Save Vietnam Wildlife, 2014) / (** EPRC, 2016) / (***Wildlife Rescue Center, 2017) / (**** TCC, 2011) / (***** Millions of Friends, 2015) / (****** SSN, 2017c)

### India

| **Rescue center present & number** | | | |
|---|---|---|---|
| **RC Year of creation** | – Centre for Wildlife Rehabilitation and Conservation (CWRC) (2002)*<br>– Centre for Bear Rehabilitation and Conservation (CBRC) (2003)** | | |
| **Rescue center present***** | | **Rescue center number***** | |
| **2010** | Yes | **2010** | 2 |
| **2011** | Yes | **2011** | 2 |
| **2012** | Yes | **2012** | 2 |
| **2013** | Yes | **2013** | 2 |

Table 48: Rescue center present & number – India (* Kalita, 2012) / (** Capila, 2015) / (*** SSN, 2017c)

**Thailand**

| Rescue center present & number | | | |
|---|---|---|---|
| **RC Year of creation** | – Wildlife Friends Foundation Thailand (2001)* | | |
| **Rescue center present**** | | **Rescue center number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

**Table 49: Rescue center present & number – Thailand (* WFFT, 2017) / (** SSN, 2017c)**

**China**

| Rescue center present & number | | | |
|---|---|---|---|
| **RC Year of creation** | – Beijing Raptor Rescue Center (2001)*<br>– Sichuan Longqiao Black Bear Rescue Centre (Animals Asia Foundation) (2002)**<br>– Dr Gail Cochrane BVMS MRCVS and Dr Tiger Bradley BVMS MRCVS (1997)***<br>– Tai Wai Small Animal and Exotic Hospital | | |
| **Rescue center present**** | | **Rescue center number**** | |
| **2010** | Yes | **2010** | 3 |
| **2011** | Yes | **2011** | 3 |
| **2012** | Yes | **2012** | 3 |
| **2013** | Yes | **2013** | 3 |

**Table 50: Rescue center present & number – China (* IFAW, 2017) / (** Xinhua News Agency, 2002) / (*** Tai Wai Small Animal and Exotic Hospital, 2017) / (**** SSN, 2017c)**

**South Africa**

| Rescue center present & number | | | |
|---|---|---|---|
| **RC Year of creation** | – Jane Goodall (JG) – Chimpanzee Eden (2006)*<br>– Shamwari Game Reserve (1990)**<br>– Vervet Monkey Foundation (1993)*** | | |
| **Rescue center present**** | | **Rescue center number**** | |
| **2010** | Yes | **2010** | 3 |
| **2011** | Yes | **2011** | 3 |
| **2012** | Yes | **2012** | 3 |
| **2013** | Yes | **2013** | 3 |

**Table 51: Rescue center present & number – South Africa (* the Jane Goodall Institute South Africa, 2017) / (** Shamwari, 2015) / (*** Vervet Monkey Foundation, 2017) / (**** SSN, 2017b)**

### 8.2 – Rescue center(s) under other sources than SSN

**Myanmar**

| **Rescue center present & number** | | | |
|---|---|---|---|
| **RC Year of creation** | – Turtle Survival Alliance (2001)*<br>– Big Cat Rescue (1992)**<br>– Turtle Rescue Center (2012)*** | | |
| **Rescue center present** | | **Rescue center number** | |
| **2010** | Yes | **2010** | 2 |
| **2011** | Yes | **2011** | 2 |
| **2012** | Yes | **2012** | 3 |
| **2013** | Yes | **2013** | 3 |

Table 52: Rescue center present & number – Myanmar (* TSA, 2009) / (** BCR, 2015) / (WCS, 2017)

**Tanzania**

| **Rescue center present & number** | | | |
|---|---|---|---|
| **RC Year of creation** | – Jane Goodall (JG) – Chimpanzee Eden (2006)* | | |
| **Rescue center present**** | | **Rescue center number**** | |
| **2010** | Yes | **2010** | 1 |
| **2011** | Yes | **2011** | 1 |
| **2012** | Yes | **2012** | 1 |
| **2013** | Yes | **2013** | 1 |

Table 53: Rescue center present & number – Tanzania (*the Jane Goodall Institute South Africa, 2017)

***Hong Kong***

*Dependent territory of China.*

## Appendix 9 – Details: Indicator 4: Records of trade

Ch. 6.4 mentions a specific lay–out for this indicator. It combines data from both countries being either an importing–, exporting– and/or intermediary country with data from what trade the country is involved in –elephant, rhino or tiger–. It results in the next details that are presented, as well with MAs, SAs and rescue centers, in a table format.

**Records of trade – African and/or Asian elephant**

| **Kenya – exporting country – African elephant** | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 54: Records of trade Kenya – exporting country – African elephant, 2010–2013 (CITES, 2017e)

| **Tanzania – exporting country – African elephant** | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 55: Records of trade Tanzania – exporting country – African elephant, 2010–2013 (CITES, 2017e)

| **Thailand – importing country – African elephant & Asian elephant** | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 56: Records of trade Thailand – importing country – African elephant & Asian elephant, 2010–2013 (CITES, 2017e)

| China – importing country – African elephant & Asian elephant | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 57: Records of trade China – importing country – African elephant & Asian elephant, 2010–2013 (CITES, 2017e)

| Hong Kong – importing country – African elephant & Asian elephant | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 58: Records of trade Hong Kong – importing country – African elephant & Asian elephant, 2010–2013 (CITES, 2017e)

| Vietnam – importing country – African elephant & Asian elephant | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 59: Records of trade Vietnam – importing country – African elephant & Asian elephant, 2010–2013 (CITES, 2017e)

**Records of trade – Southern White Rhino and Northern White rhino**

| South Africa – exporting country – Southern White rhino | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 60: Records of trade South Africa – exporting country – Southern White rhino, 2010–2013 (CITES, 2017e)

| China – importing country – Southern White rhino & Northern White rhino | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 61: Records of trade China – importing country – Southern White rhino & Northern White rhino, 2010–2013 (CITES, 2017e)

| Vietnam – importing country – Southern White rhino & Northern White rhino | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 62: Records of trade Vietnam – importing country – Southern White rhino & Northern White rhino, 2010–2013 (CITES, 2017e)

**Records of trade – Bengal tiger**

| India – exporting country – Bengal tiger | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 63: Records of trade India – exporting country – Bengal tiger, 2010–2013 (CITES, 2017e)

| Myanmar – exporting country – Bengal tiger | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 64: Records of trade Myanmar – exporting country – Bengal tiger, 2010–2013 (CITES, 2017e)

| China – importing country – Bengal tiger | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 65: Records of trade China – importing country – Bengal tiger, 2010–2013 (CITES, 2017e)

| Myanmar – importing country – Bengal tiger | | |
|---|---|---|
| **Records of trade present** | Yes | |
| | **Records of trade complete; Yes** | **Records of trade complete; No** |
| **Names exporters and importers** | Yes | |
| **States with which such trade occurred** | Yes | |
| **Numbers or quantities and types of specimens** | Yes | |
| **Names of species as included in Appendices I, II and III** | Yes | |
| **If applicable, the size of the specimen** | Yes | |

Table 66: Records of trade Myanmar – importing country – Bengal tiger, 2010–2013 (CITES, 2017e)