

# Using the Popular Press to Quantify the Impact of Poaching activities on African Elephants in Sub-Sahara Africa

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In the face of the recent bid by several African nations to lower the ban imposed by the Convention on International trade in Endangered Species (CITES) on the sale of stock-piled ivory, the popular press was consulted in an attempt to quantify and understand the pressures of poaching, human / wildlife conflict and other factors that may be influencing *Loxodonta Africana* meta-populations in the various African countries. The study focussed on a period of one year, from the 1<sup>st</sup> February 2009 to the 28<sup>th</sup> January 2010. All popular press articles dealing with the topic of ivory poaching were obtained from the Save the Elephants' news service which is managed by Ms. M. Groo. Articles were categorized depending on the type of information that was sought. The data gathered was dependent on the reporting frequency of the country or region as well as the ability of a particular search engine to pick up on any poaching related incidents reported in the popular press. The accuracy of the information of the reported incidents can also be brought to question. However we assume that data will represent an under estimate of actual incidents and errors in numbers of reported incidents, quantities of ivory confiscated and role-players in poaching incidents and arrests should not mask trends in occurrence over time. Kenya, Zimbabwe and Tanzania were found to experience the highest incidence of poaching. The frequency of poaching incidents may depend on the political stability of countries such as Kenya and Zimbabwe which have higher incidents of ivory poaching and are experiencing or have experienced civil unrest and political instability in recent history. Kenya was the country with the highest frequency of incidents where ivory was confiscated, closely followed by Tanzania. Asia, namely Thailand and China, was found to be the most prominent end-user markets of ivory. In terms of enforcement, the most prominent enforcement agency across all regions was the police.

## INTRODUCTION

According to the CITES Fifteenth meeting of the Conference of the Parties, Doha (Qatar), (March 2010), in their document Consideration Of Proposals For Amendment Of Appendices I And II, It is estimated that between 1979 and 1989, more than 600,000 African elephants died, primarily due to poaching for ivory, resulting in a decrease in the continental population from an estimated 1.2 million to an estimated 600,000. In some regions up to 80% of elephant herds were lost, and many have not recovered to their original size.

The World Wide Fund for Nature (WWF) made a statement in July 2009, that the major threats to the African elephant is reduction of habitat, human / wildlife conflict and poaching (reported by Absalom Shigwede in the Namibian press on 9 July 2009). Furthermore, there is speculation that the 2008 sale of stockpiled ivory by several Southern and East African nations has re-created the demand for ivory and therefore placed African elephants under poaching pressure once again. The recent call by several African nations to relax the CITES ban on the sale of ivory to once again facilitate the sale of stock-piled ivory has raised concern that this may

result in an escalation of poaching. Questions that have been raised include the applicant countries ability to regulate the trade in ivory and protect their elephants from poachers.

According to Van Aarde (2010), personal opinion, hearsay, anecdotes and individual interpretations of research often dominate heated debate on elephant management. Media reports often boost calls for elephant management following general statements regarding the rate of elephant population changes over time and statements that elephants negatively impact on biodiversity.

This document aims to utilise the popular press as a resource to quantify the pressures of poaching on the African elephant populations in sub-Saharan Africa and demonstrate the global involvement in ivory poaching. The shortcomings to this approach have been highlighted earlier and although the obvious flaws involved in consulting the popular press are apparent it is envisioned that this document will assist in quantifying poaching pressure on elephant numbers and assist in predicting trends in this regard as well as demonstrating the potential consequences of certain management decisions. The Save the Elephants News Service distributes any current news relating to elephants to over 1000 subscribers worldwide. Through the review of these news reports it became apparent that the most popular topic of all reports related to incidences of poaching or illegal trade in ivory.

The document further aims to collate isolated incidents reported by the press so that they may be viewed in conjunction with all other incidents to create a holistic view of the current situation. The study will deal with a specific time period from the 1<sup>st</sup> of February 2009 to the 28<sup>th</sup> of January 2010.

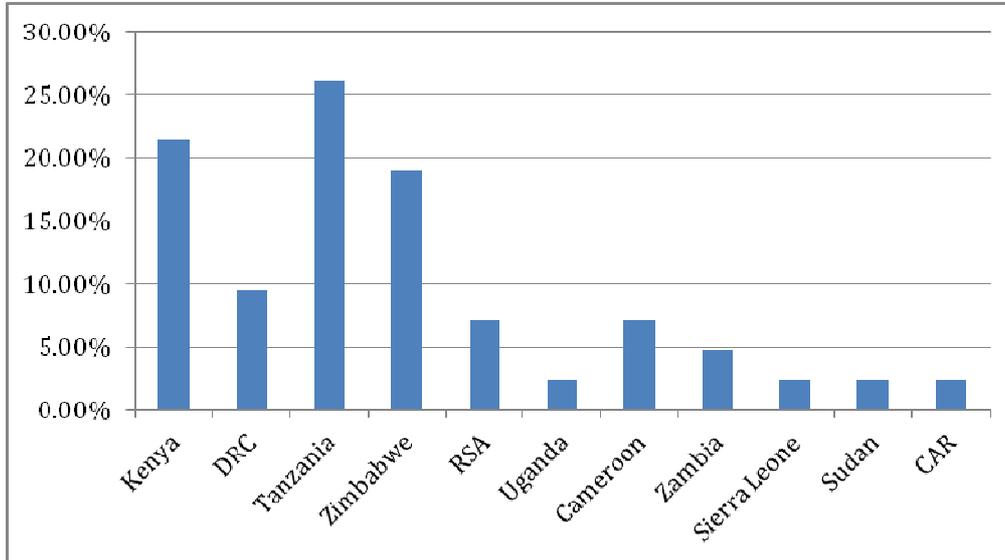
## **METHODOLOGY & OBJECTIVES**

The 129 separate news articles summarised in table 1 were analysed to indicate which specific African countries were experiencing the most severe impact and which foreign countries were involved as either end-users or aiding the illegal trade in ivory; either by assisting during the poaching process or allowing a market for ivory. Dates were quantified to indicate which months were most severe in terms of reporting frequency. When applicable, quantification of the types as well as the mass or monetary value of ivory was analysed. The various channels through which the ivory was being transported was extracted from the articles and quantified in an attempt to isolate which method of transportation was favoured and thus most susceptible to usage by traffickers. Additionally the enforcement agencies in each report were examined. It was envisioned that this would identify region specific shortcomings within the law enforcement arena. It was envisaged that the study would give individuals a new, often hidden or unknown perspective as to the true poaching pressures on African elephants.

Several note-worthy articles are discussed in this document to illustrate the trends and quantified data.

## RESULTS AND DISCUSSION

### Region specific incidents of poaching and trafficking

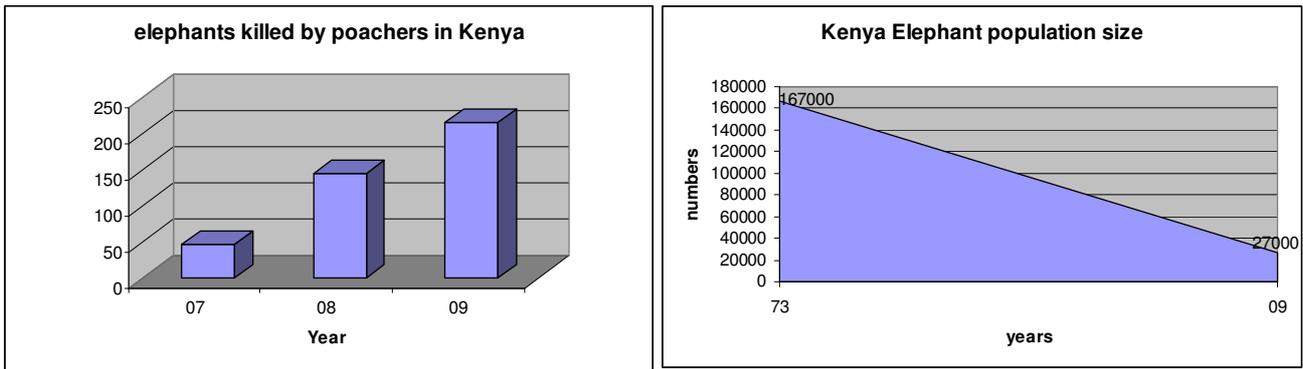


**Figure 1:** The frequency of reported poaching incidents which occurred in the relevant African countries between 1 February 2009 and 28 January 2010

The above graph illustrates which of the Sub-Saharan countries are most severely affected by elephant poaching. It is evident that in the 1 year study period, Tanzania experienced the highest incidence of poaching, totalling 26.19% of all poaching incidents reported from our sources. According to Suyani Kumaro (This Day, March & July 2009), corruption within the Tanzanian government is believed to be a major contributing factor and is highlighted by the arrest of six officials of the Tanzanian Revenue Authority in March, and again with the arrest of airport officials in July.

The six officials of the Tanzania Revenue Authority (TRA) were arrested for smuggling tusks to the value of 29.41 USD. The airport officials were found to be in possession of 53 kilograms of illegal ivory. In another noteworthy incident on the 6<sup>th</sup> November 2009, it was reported that the Tanzanian police uncovered an illegal ivory smuggling network, resulting in the confiscation of 30 elephant tusks. It is believed that approximately 50 elephants die each month in Selous, Tanzania. (This Day, 29 October 2009)

Kenya, at 21.42%, experienced the second highest incidents of poaching during the report period. According to several sources, the 2008 figures for poaching have doubled since 2007 in Kenya. In 1973 the population of elephants in Kenya was predicted to be in the region of 167 000. In 2009 it is estimated at 27 000 (Walker, J. The Washington Post, 17 October 2009). The recent surge of poaching in Kenya has been attributed to the legal sale of ivory, during the window opened by CITES in 2008 (McCarthy, Reuters, 25 February 2009).



**Figures 2 & 3.** The dramatic increase in poaching incidents in Kenya over the past three years and the exponential decrease in elephant population numbers in the same country, since 1973 (Menya, W. Daily Nation, 1 December 2009).

The sharp increase in poaching incidents in Kenya could be explained by the recent civil unrest and subsequent re-focusing of priorities and the lack of enforcement resources. This sharp increase in ivory poaching also coincides with the lowering of the CITES ban to allow stock-pilled ivory sales.

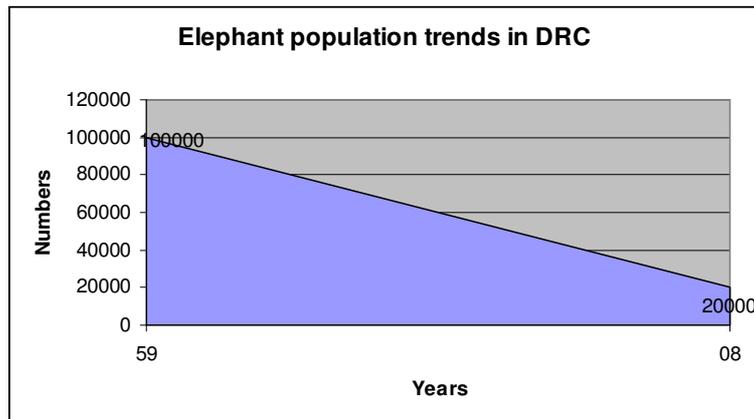
Zimbabwe, which has been suffering from a prolonged economic crisis against a backdrop of political instability, experienced the third highest incidence of poaching at 19% of all reported incidents.

Reports in the press indicate that the war in Sudan inadvertently caused the extinction of elephants in the country, although a small population has recently been discovered (McKenzie, D. CNN, 7 December 2009). Zimbabwe and Kenya represent other countries that recently experienced civil unrest during the (2007 elections) and subsequent increases in ivory poaching. In Kenya, the instance poaching doubled in 2008 from the 2007 figures in this region.

WWF recently announced that 10 elephants are killed every month in the Congo Basin, and that if the causal factors persist elephants will be extinct in the region in 10 years. This problem is compounded with the recent economic crisis resulting in many loggers losing their jobs and resorting to poaching as a way to secure income (Scott, S. Voice of America, 19 May 2009).

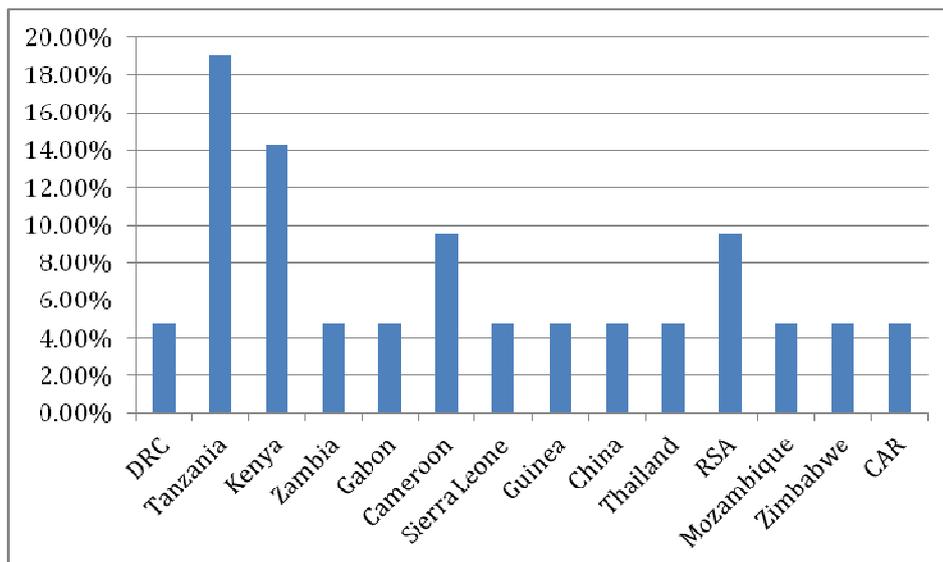
Although the D.R.C experienced only the fourth highest incidents of poaching, figure 1 should be considered against the total number of elephants in the region.

The population of elephants in the Congo has dropped by one third in five years. Currently the population in this region is estimated at 20 000 elephants. In 1959 it was estimated to be at 100 000 elephants. Approximately 80 000 have been poached since then (Scott, S. Voice of America, 19 May 2009).



**Figure 4.** Trends seen in the countries with recently experienced civil and political unrest or instability, that have African elephants. This is the elephant population trend in the DRC since 1959. (The Independent, 15 April 2009).

An additional example is provided by Nigeria where the Nigerian Conservation Authority stated in February 2009 that Yankari may lose half its elephant population in the next four months if poaching persists at the current rate. No further reports have been received since.



**Figure 5:** The frequency of reported poachers' origins during the study period.

Poachers are most likely to be local to the area where the poaching occurs. This is noticeable when the above graph (figure 5) is considered alongside figure 1. The highest frequency of poaching occurs in Tanzania; therefore the demand for poachers in this region would be highest. A report by Daily News on the 27 November 2009 reported that 70 poachers were arrested in Selous Game Reserve. All of the poachers were of Tanzanian origin. It is commonplace that indigenous people are approached by crime syndicates to carry out poaching operations. This method ensures that it is difficult for law enforcement to make the legal connection between the

local poacher and the organization which employs them if the poachers are apprehended. This phenomenon is supported by an article by The Post on the 13<sup>th</sup> November 2009 which discusses how Chinese gangs are seeking to monopolise the ivory trade. Figure 5 contains instances where Thai and Chinese nationals were allegedly involved directly as poachers. These are to be seen as rare and isolated cases as further analysis of the data suggests that nationals from these countries play a bigger role in the post-poaching components of the illegal trade in ivory (Middle-men, buyers or couriers). Corruption within the affected African countries is a factor that cannot be forgotten and is a symptom of the socio-economic status and political history of the respective country. To highlight this, soldiers were sent by police in the Congo Basin to poach elephants in the region (Hart, T. Searching for Bonobos, 1 February 2009). Also, as already mentioned, six officials of the Tanzanian Revenue Authority were arrested in March 2009 in connection with the illegal trafficking of ivory to the value of 24.91USD (Kumaro, S. This Day).

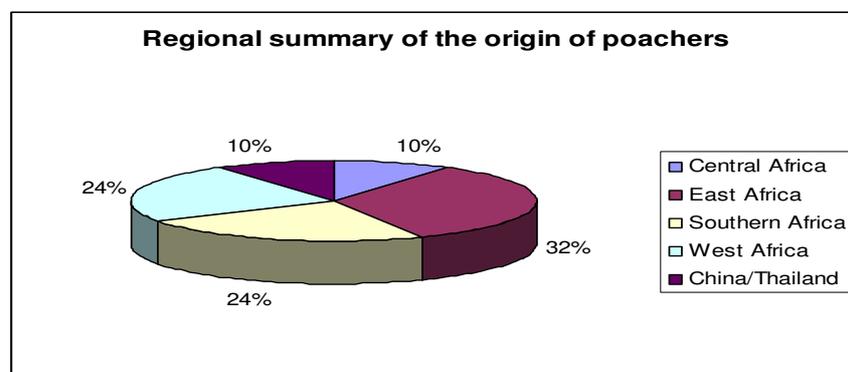
Five hundred kg of ivory were discovered at an airport in China in June 2009. Soldiers assisted in the trafficking process (Rupapa, T. The Herald, 03 June 2009).

In Zimbabwe a minister was implicated with a poaching ring (The Zimbabwean, 22 July 09).

In Pegue Manga's story "Cameroon is a white collar poachers Haven" he describes how affluent members of society enable poachers to carry out their work.

During this study period, Tanzania and Zimbabwe had the highest occurrence of corruption mentioned in the poaching reports.

Again, the trend seems to suggest those countries with socio-economic pressures and political instability in recent years, such as Zimbabwe and Kenya show the highest incidents of locals turning to poaching as a source of income and resources. Agence France Presse reported on the 16 November 2009 that Zimbabwean poachers allegedly killed 65 elephants from January 2009 to October 2009.



**Figure 6.** Regional representation of the origin of communities directly implicated in poaching activities.

The formula for high poaching incidents and high numbers of the local population involved in poaching could be represented as follows:

Where

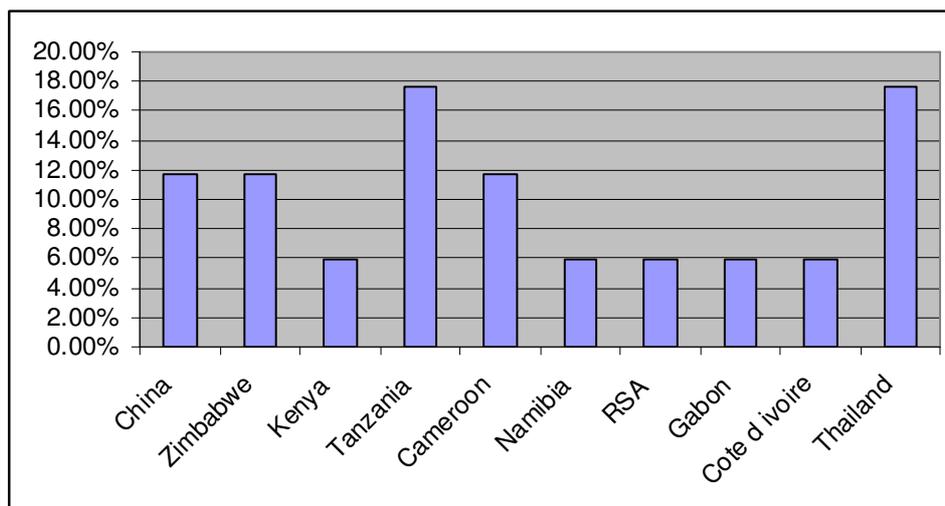
1. **P%** = Potential for locals to become involved in poaching
2. **Ed** = Elephant density
3. **I** = Infrastructure (such as transport routes and communications networks)
4. **A** = accessibility of the elephant inhabited areas (dense forests, isolated locations, etc.)
5. **SE** = Social and economic state of the country
6. **PH** = Political history

$$P\% = \frac{Ed + I(A)}{SE + PH}$$

This can be demonstrated in a country such as Kenya where elephant numbers are relatively high, especially in protected areas, coupled with a relatively good infrastructure and accessible elephant inhabited areas. This would normally be of benefit to the conservation efforts of this species as it would provide for easy regulation and monitoring, surveillance and compliance. However, this is undermined by the current socio-economic problems coupled with the recent political history.

This would indicate that should P% be low, then it indicate that the country was in a good position to manage the threat to their elephant populations. However, should P% be high, then the opposite is true.

### The end-user market



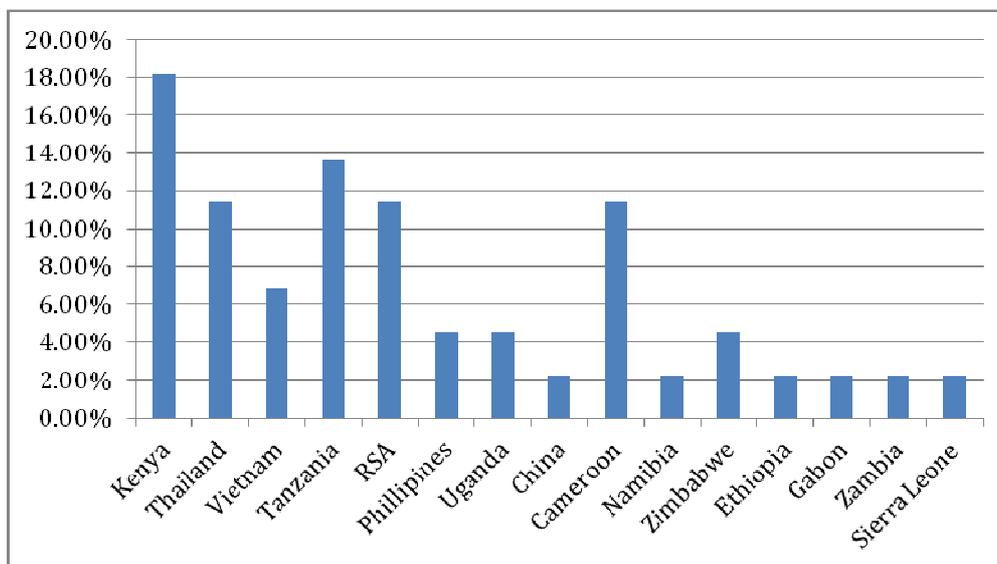
**Figure 7:** The frequency of reported traffickers' origins during the study period.

Figure 7 shows that Thailand is one of the biggest consumers of ivory and arguably the largest amount of illegal ivory is destined for this region. Tanzania has an equally high frequency of traffickers (Figure 7).

Ivory smuggling syndicates would isolate and identify weak points within Africa and would preferably move ivory out of Africa through these channels rather than increase their likelihood of discovery by moving ivory through a more logistically sound region. These suggestions are supported by various reports where vehicles containing ivory have been discovered. It is believed that these vehicles move ivory through the border to another African country where law enforcement is not as effective in preventing the smuggling of ivory.

### Law enforcement capacity

Although Kenya has one of the highest incidents of poaching, they also report a high law-enforcement success in the popular press within their borders. 75% of all poaching incidents reported in Kenya resulted in successful enforcement follow-up, measured as either arrests and / or confiscations, often with the co-operation of neighbouring countries such as Ethiopia and Tanzania and even international role-players such as the Philippines. Therefore it is believed that ivory is moved across Kenyan borders to other neighbouring countries where the probability of discovery is reduced. This is noticeable in figure 7 where relatively low frequencies of traffickers are of Kenyan origin.



**Figure 8:** The frequency of regions where ivory is reportedly confiscated during the study period.

Noticeably Kenya has the highest frequency of instances where ivory is confiscated within its borders and is consistent with the amount of poaching that occurs within the region. Although Tanzania exhibits a higher frequency of poaching than Kenya, it displays a lower frequency (45%) of successful law enforcement and ivory

confiscations within its borders. Therefore it can be deduced that Kenya has more effective law enforcement mechanisms in place that would indicate a dedication to, and history with, monitoring, surveillance and compliance in this respect.

Table 1 shows a summary of the countries where significant poaching cases were reported and the corresponding success rates of their enforcement agencies. Note that this table only deals with the large cases reported during this study period and is not a reflection of all poaching incidents reported during this time.

**Table 1.** African countries with higher poaching incidents and their corresponding enforcement success.

<b>countries with major poaching incidents</b>	<b>Number of poaching incidents</b>	<b>% enforcement success</b>
Kenya	12	75%
Tanzania	9	45%
DRC	4	0%
Cameroon	4	50%
Zambia	2	50%
RSA	2	100%
Zimbabwe	8	50%

Although regions such as Thailand, China, the Philippines and Vietnam (see figure 5) are the prominent destinations for ivory; it is clear that their enforcement efforts in these regions is ineffectual.

**Table 2.** Monthly summary of illegal ivory smuggling cases, registered in the destination and consumer countries.

	<b>Vietnam</b>	<b>Thailand</b>	<b>Philippines</b>	<b>China</b>	<b>USA</b>
<b>Feb</b>					
<b>Mar</b>	√	√			
<b>Apr</b>		√			
<b>May</b>			√√		
<b>Jun</b>					
<b>Jul</b>	√				
<b>Aug</b>	√√√	√√	√√		
<b>Sep</b>					
<b>Oct</b>					
<b>Nov</b>		√√	√	√	
<b>Dec</b>					
<b>Jan</b>				√	√
<b>TOTAL</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>1</b>

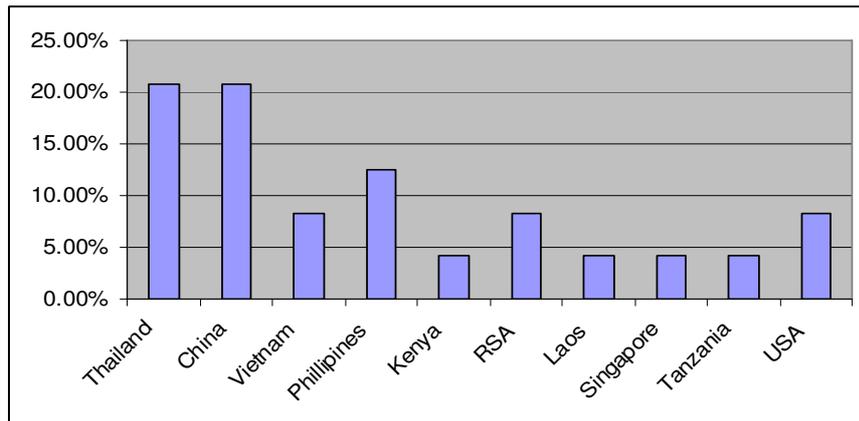
Table 2 shows that Thailand, as the major consumer nation for illegal ivory (figure 9), has had the highest number of successful apprehensions and confiscations, which may demonstrate that they are committed to addressing this problem, however, despite this they still remain the highest consumers. Although figure 9 indicates that China has a high frequency of illegal imports of ivory, they have a very low enforcement record and therefore this demonstrates their lack of commitment to this problem. The data shows that poaching has increased after July 2009 and that there have been only stochastic successes in enforcement in the consumer nations. This could be explained by effective enforcement efforts which in many cases relate to the seizure of stock-piles of illegal ivory, which could have accumulated over time (Table 3).

**Table 3.** Number of reported enforcement successes within the affected African nations, per month.

	Namibia	Kenya	Tanzania	Uganda	Zimbabwe	DRC	Cameroon	Zambia	Gabon	RSA	Ethiopia
Feb		√√									
Mar			√√	√							
Apr		√			√√√	√				√	
May		√	√√√			√	√				
Jun		√		√	√						
Jul		√√	√								
Aug		√√	√	√							
Sep	√	√					√	√			
Oct		√√			√		√√			√	√
Nov		√	√√					√	√	√	
Dec					√					√√	√

Table 4 shows that Kenya has a consistent record of effective enforcement, but despite this, they are still one of the countries with the highest incidents of poaching. It is also clear that illegal activities have been uncovered in every month of the year and a shift to other countries seems to have occurred towards the end of the year. In the case of Ethiopia, these were joint operations with Kenyan authorities that resulted in arrests and confiscations inside their boundaries.

Figure 8 relies on the effectiveness of the local enforcement agencies and the reporting frequency of the press in each region, and therefore may not be a true reflection of the major portals for the movements of illegal ivory.



**Figure 9:** Frequency of end-user countries where illegal ivory was transported (and confiscated) as a final destination.

Asia is widely recognized as the prominent consumer of illegal ivory products (The Independent, 15 April 2009). Figure 9 displays Thailand and China as exhibiting the highest frequency as a final destination for these products. These two regions exhibit a markedly higher frequency of occurrence than other regions.

China has recently been experiencing a ‘financial boom’. The demand for ivory amongst the ‘suddenly wealthy’ has put added pressure on elephants (Financial Times, 22 August). A press release from the wildlife trade monitoring network (TRAFFIC) on the 19 June 2009 discussed how legal loopholes sustain the Thai ivory trade. The report goes on to say that 70% of retail outlets in Thailand sell elephant products.

In one instance 30 million USD worth of illegal ivory from D.R.C was reportedly uncovered in Thailand (The Independent, 15 April 2009). When these two regions are considered alongside figure 4 it becomes apparent that their dedication to law enforcement is not consistent with the threat which their regions pose.

Within six weeks 3500 kg of ivory were seized in the Philippines, 6300 kg in Vietnam and 1000 kg in Thailand (Baker, A. BBC News, 6 August 2009).

**Table 4.** An indication of the links between the countries afflicted by ivory poaching and the corresponding destination countries.

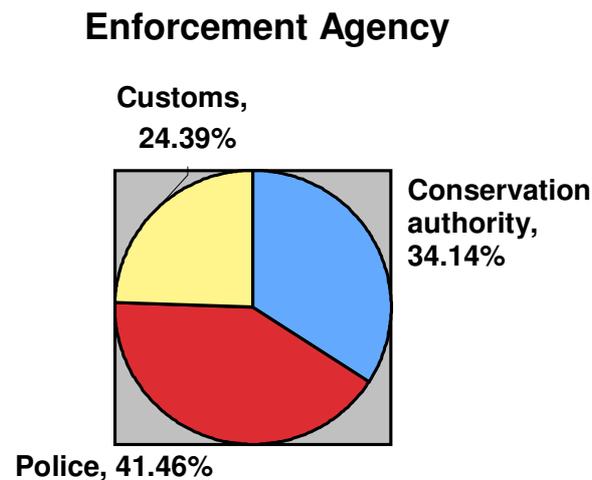
Country of ivory origin	Country where confiscations made				
	China	Vietnam	Philippines	Thailand	Singapore
Gabon	√				
Kenya	√√√	√√		√√	
Tanzania	√√	√√	√√√√√	√	
Zimbabwe	√				
Uganda				√√	
DRC				√	
Zambia					√
Gabon	√				

Table 4 above shows the corresponding foreign countries that receive and re-sell the illegal ivory. Each tick indicates a significant ivory smuggling case reported during the study period.

There is clearly a strong link between Tanzania and the Philippines. Furthermore, it appears that Tanzania's ivory is being exploited by China, Vietnam and the Philippines, almost all of the big end-users in the illegal ivory trafficking enterprise. As mentioned earlier, this table could indicate that Tanzania is the country of choice for illegal ivory smuggling due to poor enforcement infrastructure, but does not necessarily indicate that the ivory originated in this country. For example, poached ivory is probably routed through Tanzania, possibly from Kenya, and advantage is taken of the relaxed customs procedures.

Again, as indicated in Figure 9, China and Thailand are well represented in most of the countries where elephant poaching is occurring at high rates.

A substantial market exists for ivory in the above depicted regions. This is apparent during sales of legal ivory at auctions, where countries such as China are often well represented and often purchase considerable amounts of ivory. In November 2008, a once off auction of stockpiled ivory from four Southern African countries raised 15, 4 million USD. This ivory was predominantly bought by Chinese buyers.



**Figure 10:** The ratio between the various law enforcement agency responsible for the apprehension of poachers and traffickers during the report period.

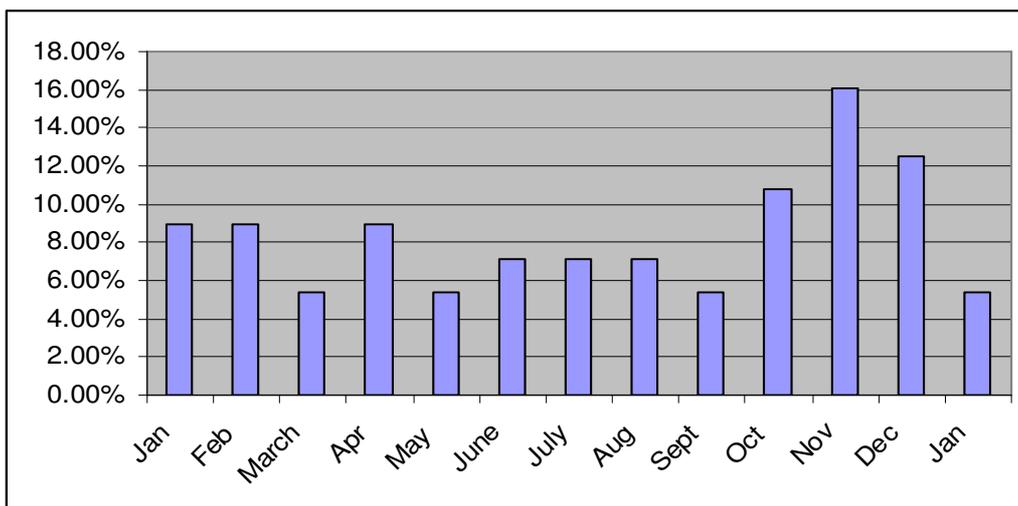
The above graph displays the relationship between the various enforcement agencies with relevance to the poaching and trafficking of ivory during the report period. The various police agencies were most prevalent, with 17 instances of involvement. Region specific wildlife enforcement authorities featured in 14 instances whereas customs officials featured 10 times. Wildlife officials are the first line of defence against poachers. When these authorities fail the elephants have already been killed by the time police or customs officials apprehend the traffickers. Wildlife enforcement agencies in the various regions are subject to a broad spectrum of financial, social, political and administrative challenges. What is not represented here are the preventative measures

implemented by the conservation authorities and the resulting successes would be difficult to quantify. It would appear that the customs and excise departments around the world are playing a large role in the prevention of illegal ivory trade. 24.39% of all arrests and confiscations made during this time were made by customs and excise officials both locally and abroad. The local police had the highest success rates in enforcement and this was probably in conjunction with the other enforcement agencies such as the wildlife authorities.

Many media reports mention that the personnel of the wildlife departments within Tanzania, Zambia and Mozambique receive external support from various NGO's for their anti-poaching efforts. Although this is noble of the various donor bodies, it also shows that these countries do not have the resources or commitment to conduct anti-poaching patrols, or do not rate this as a high priority.

In many instances wildlife officers lack the resources, training, authority and / or motivation to carry out their tasks effectively. Having said that, the motivation and dedication of enforcement agencies is often in question as indicated In one instance in Tanzanian game scouts were directly involved in the poaching of elephants in Selous Park (This Day, 29 October 2009). In another instance members of the Ecoguard of Ministry of Forestry and Wildlife were implicated in a poaching incident within a protected area in Cameroon (The Guardian Post, 2010).

Of particular relevance is the prosecution of individuals involved in poaching / trafficking. During the study period only five convictions occurred throughout all the regions. This low figure is attributed to the poor arrest rates, the demographics of the people involved in the poaching activities and the poorly administered legislation and judiciary systems in the affected countries.

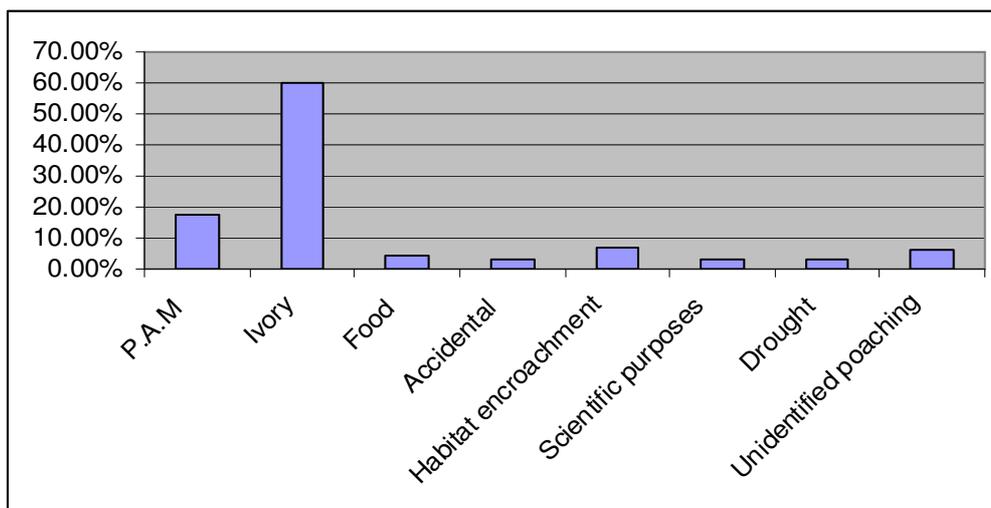


**Figure 11:** The frequency of reported poaching related incidents occurring per month during the study period in all regions

From the above graph it is noticeable that the incidents of poaching seem to correspond with the bimodal rainfall cycle experienced in much of Kenya. With the onset of the rains, plant and grass biomass would increase,

ensuring that elephants are likely to locate adequate browse material over a much broader cross section of a park.

Human – wildlife conflict may also become accentuated as crop planting and harvesting regimes correspond with the rainfall trends and availability of water and forage resources for elephants. It should also be born in mind that in some cases, apprehensions and confiscations of illegal ivory may be that of animals poached earlier in the year.



**Figure 12:** The motivation for the illegal killing of elephants and frequency of instances for the report period across all regions.

The above graph displays the need for ivory as the most prevalent reason for the illegal killing of elephants. Of the 129 separate cases analysed for this study, only 45% of the media reports provided sufficient data to extrapolate exact numbers of elephants killed and ivory confiscated. Therefore, of the 58 cases that could be utilised for this exercise, 2 398 elephants were killed and 42 111.3 kg of ivory were confiscated. From the 58 cases analysed, the mean weight of an elephant tusk was found to be is 4, 6 kg.

Problem Animal Management (PAM) has a major influence on the elephant population numbers in various countries, both directly and indirectly. Kenya experienced the highest incidence of problem animals, with Zimbabwe a close second. In Amboseli in 2008 and the first month of 2009 44 elephants were reportedly injured by spears, poison arrows and bullets (Hart, T. Amboseli Trust for Elephants, 14 February 2009). In countries such as Zimbabwe which are undergoing a severe economic crisis, local people are forced to kill elephants for food. In Sue Roberts' article for the Daily Mail Online on the 15 April 2009 she recounts how refrigeration trucks were witnessed loading tons of elephant meat within protected areas. Often poaching and elephants which encroach on human settlements are interlinked. In another case, 400 Zimbabwean elephant reportedly fled from

their home range due to poaching pressure and came into direct contact with human settlements (Shaw, A. Associated Press. 29 April 2009).

Unidentified poaching was quantified separately as the reports did not disclose the motivation for the animals being killed. Accidental deaths included instances such as that reported by Zimbabwe Broadcasting Corporation (ZBC) news on the 15<sup>th</sup> April 2009 where three elephants were killed by a train. We are aware that many of these incidents go un-reported as it is not considered news-worthy and therefore it is expected that this field should be much higher.

Scientific purposes include instances where elephants are legally killed for research purposes (Momborg, E. Sunday Independent. 3 May 2009).

It should be noted that many elephants die in addition to the above mentioned motivations. These include natural causes such as drought as is the case with the Gourma elephants in Mali, compounded by the encroachment of human settlement and agriculture on the historical elephant home ranges.

## **RECOMMENDATIONS**

Although there are isolated successes on the African continent with regards to elephant conservation, these should be seen in a continental and even global context. Results indicate that on a continental scale the African elephant is declining because of increased poaching even though local populations may be increasing in places where they are well protected (such as in some southern states). The departure point for all forms of elephant population management should be that the African elephant population is on a steady decline, and the causal factors need to be addressed swiftly.

Mitigation methods to decrease the poaching of elephants could involve banning the sale of all forms of ivory, and preventing legal auctions of stockpiled ivory to interrupt the supply and demand for ivory. Increased political pressure could be brought to bear on consumer nations to ensure compliance and co-operation with the enforcement of the ban on the trade of ivory. The study displayed that prosecution of offenders was stochastic and sentences were relatively light for the severity of the offence. Local legislation in both the countries of origin as well as destination countries could be strengthened to act as a deterrent. Wildlife authorities should be granted the necessary authority, resources and political will from their governments to effectively carry out their jobs. This is the first line of defence against poaching and therefore efforts could be made to strengthen the arm of these bodies to become effective preventative agents. The study revealed that police were conducting the majority of enforcement, often in conjunction with the wildlife conservation authorities and therefore this would then be the sector to concentrate training and empowerment efforts.

The above will be the optimal method to conserve the elephant population, although more realistic measures exist and are currently being practised in some regions. There are countries where conservation efforts are proving effective as evident in South Africa, Botswana, Zambia and Namibia. The efforts of these countries are bearing dividends in the form of increasing numbers of elephants. These countries should not view themselves in isolation from other countries where elephant numbers are dropping considerably. Countries that have implemented successful elephant management systems should undergo a paradigm shift to rather see themselves as custodians of healthy sub-populations of the greater African elephant meta-population (Oliver *et al.* 2009). A perspective could be adopted where these elephants should be viewed as belonging to Africa in its entirety. These countries call for the sale of stock-piled ivory could have detrimental knock-on effects for other nations that do not have the means to control poaching and the illegal trade in ivory.

Countries that apply for the legal sale of stock-piled ivory should be evaluated according to their social and economic track-record as well as their history with enforcement and conservation practise. The potential influences on their neighbours as elephant custodians must also be born in mind during the decision-making process.

## **CONCLUSION**

The above data seems to show that poaching is still a major threat to the survival of African elephants as the supply and demand is still established.

The Asian market for ivory and ineffective enforcement on a global scale impacted heavily on the African elephant population during this study period.

Researchers believe poaching is now on par with the late 1980s. It is believed if the causal factors persist elephants could be extinct outside of protected areas by 2020 (The Independent, 15 April 2009).

In 1959 the population of elephants in the D.R.C was approximately 100 000. Currently it is estimated to be less than 20 000. World Wide Fund for Nature (WWF) announced that approximately 10 elephants are hunted each month in this region. It is estimated that in 10 years there will be no elephants left in this region. Furthermore, to demonstrate the severity of illegal ivory trading and poaching, It is believed that the ivory trade has surpassed the drug trade in Africa. (Agence France Presse, 19 June 2009)

Habitat encroachment is of equal concern, especially in predominantly rural areas where elephants live alongside human settlements. Often elephants' habitats are severely encroached upon by increasing human pressures such as habitat destruction which results in the animals becoming desperate for life-giving resources. It is predicted that 90 % of elephants' habitat in West Africa has been destroyed by human settlements, roads and railways. Elephants are reportedly extinct in Gambia (Fadera, H. The Observer, 14 September 2009).

Agence France Presse reported on the 26 November 2009 that all elephants in Sierra Leone have been wiped out by poaching. Scientists believe poaching and habitat degradation has halved the African elephants' population in 30 years.

37 000 elephants are reported to die illegally every year (Walker, J. The Washington Post, 17 October 2009). Unity and agreement and instant action is needed amongst conservation forces and governments to manage this situation. Conservation authorities need to view elephant populations holistically and within the context of the entire population. Currently managers simply consider their isolated populations, which incidentally could be high, and therefore culling or a similar form of population control is considered; whereas across the border the neighbouring countries elephant population could be decimated. Countries need to work in harmony with each other in an effort to ensure the long-term survival of the African elephant.

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