

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Sixty-second meeting of the Standing Committee
Geneva (Switzerland), 23-27 July 2012

Interpretation and implementation of the Convention

Species trade and conservation

Elephants

ELEPHANT CONSERVATION, ILLEGAL KILLING AND IVORY TRADE

1. This document has been prepared by the Secretariat.
2. At its 15th meeting (Doha, 2010), the Conference of the Parties adopted Decision 14.78 (Rev. CoP15) as follows:

Directed to the Secretariat

In preparation for the 61st and 62nd meetings of the Standing Committee, pending the necessary external funding, the Secretariat shall:

- a) produce an updated analysis of MIKE data, pending the availability of adequate new MIKE data;
- b) invite TRAFFIC to submit an updated analysis of ETIS data and UNEP-WCMC to provide an overview of the latest elephant trade data;
- c) invite the IUCN/SSC African and Asian Elephant Specialist Groups to submit any new and relevant information on the conservation status of elephants, and on pertinent conservation actions and management strategies; and
- d) invite the African elephant range States to provide information on progress made in the implementation of the African elephant action plan.

On the basis of the information specified above, the Secretariat shall recommend actions for consideration by the Standing Committee.

3. In Resolution Conf. 10.10 (Rev. CoP15) (*Trade in elephant specimens*), with reference to the findings of the Elephant Trade Information System (ETIS) and system for Monitoring the Illegal Killing of Elephants (MIKE), the Conference of the Parties directs the Secretariat, within available resources, to identify those Parties whose controls of internal trade in ivory are inadequate and to "report its findings, recommendations or progress to the Standing Committee, which shall consider appropriate measures, including restrictions on the commercial trade in specimens of CITES-listed species to or from such Parties". In addition, in the *Action plan for the control of trade in elephant ivory*, adopted in Decision 13.26 (Rev. CoP15), the Conference directs the Secretariat to report on the implementation of the action plan at each regular meeting of the Standing Committee. In this regard, under *Regarding control of internal ivory trade* in Resolution Conf. 10.10 (Rev. CoP15), the Standing Committee is directed "to undertake a regular review of actions taken by consumer States to improve legislation and enforcement measures and to report the results at each meeting of the Conference of the Parties".
4. In compliance with Decision 14.78 (Rev. CoP15) and in preparation for the present meeting, the Secretariat produced an updated analysis of MIKE data. It invited TRAFFIC, the UNEP World

Conservation Monitoring Centre (UNEP-WCMC), the African and Asian Elephant Specialist Groups of IUCN/SSC and the African elephant range States to submit the analysis and information that are referred to in paragraphs b) to d) of the Decision. Concerning the implementation of the *African elephant action plan*, information was provided by the Chair of the African Elephant Fund Steering Committee (South Africa) on behalf of the 38 African elephant range States.

5. The information referred to in paragraphs 3 and 4 above was integrated into a single report, presenting an up-to-date overview of the status of elephants, the implementation of the *African elephant action plan*, the illegal killing of elephants, the trade in elephant specimens and relevant enforcement actions undertaken by the Secretariat. This report is presented in the Annex to this document.

Recommendations

6. In compliance with Resolution Conf. 10.10 (Rev. CoP15) and Decision 14.78 (Rev. CoP15), and based on the findings presented in the Annex, the Secretariat proposes the following recommendations for consideration and adoption by the Standing Committee.

Directed to the Parties

- a) All Parties, especially those that have never reported to ETIS, should report any outstanding data on seizures of elephant specimens to ETIS no later than 1 September 2012, but preferably earlier, and thereafter do so on a regular and timely manner.
- b) Parties are encouraged to implement measures to ensure efficient controls over ivory stockpiles. All thefts from ivory stockpiles should be reported to national law enforcement authorities without delay. Information on substantial thefts from ivory stockpiles should be reported to the Secretariat and must promptly be shared at the international level through appropriate channels, such as those provided by ICPO-INTERPOL and the World Customs Organization.
- c) Parties should collaborate with other biodiversity-related conventions, United Nations bodies, intergovernmental organizations, non-governmental organizations and the private sector to raise awareness of the gravity of the escalating elephant poaching crisis, and assist in developing and implementing targeted consumer education programmes aimed at reducing demand for illegal ivory.
- d) China should submit a written report on the implementation of its internal ivory trade control system, including a review of its internal ivory trade data and measures taken to comply with the provisions in Resolution Conf. 10.10 (Rev. CoP15) and Decision 13.26 (Rev. CoP15). China should submit this report to the Secretariat by 15 November 2012, so as to give enough time to the Secretariat to evaluate the report and convey its findings and recommendations to the 63rd meeting of the Standing Committee.

Directed to the Parties and other stakeholders

- e) All Parties and the donor community are urged to assist elephant range States to improve their capacity to manage and conserve their elephant populations through improved law enforcement, surveys and monitoring of wild populations. They are also encouraged to provide funding for the *African elephant action plan*, the forthcoming *Asian Elephant Conservation Strategy*, MIKE, ETIS and the African and Asian Elephant Database.

Directed to Parties involved in large-scale ivory seizures

- f) Parties are encouraged to report large-scale ivory seizures to enforcement authorities in countries of origin and destination without delay, to enhance efficiency in combating illegal trade in ivory. Appropriate enforcement actions should be taken in the countries of origin, transit and destination.
- g) Parties in East Africa, especially Kenya, Uganda and the United Republic of Tanzania, are encouraged to increase their national and regional enforcement activities to detect and prevent illegal ivory trade. Increased intelligence-led enforcement actions should be undertaken, supported by the use of risk profiling, detection dogs, DNA analysis, isotopic analysis, other forensic analyses and controlled deliveries. The Parties in East Africa are encouraged to collaborate closely with the Parties and territories identified in recommendations d) and h). Parties may request assistance from the Secretariat in improving and coordinating their regulatory and enforcement measures, enhancing their

collaboration and facilitating targeted international support, bearing in mind that the provision of such assistance is subject to resource constraints of the Secretariat.

- h) While it is recognized that Parties and territories identified as key transit points for illegal trade in ivory have made efforts to improve their enforcement activities, these Parties and territories are encouraged to collaborate with the countries of origin and destination in order to enhance law enforcement effectiveness at ports of entry and exit. This applies in particular to Hong Kong SAR, Malaysia, the Philippines and Viet Nam, where multiple large-scale ivory seizures have been recorded recently.

Directed to elephant range States

- i) All elephant range States are urged to take immediate action to protect their elephant populations through improved monitoring and effective enforcement, to prevent illegal trade in ivory, and to report their actions through the MIKE system.
- j) Elephant range States are encouraged to ensure that all elephant poaching incidents are reported to national law enforcement authorities without delay, and that such authorities share information on significant cases at the international level through appropriate channels, such as those provided by ICPO-INTERPOL and the World Customs Organization.
- k) Elephant range States participating in MIKE, especially those in west Africa and Asia, should provide any outstanding elephant mortality data to MIKE by 1 September 2012, but preferably earlier, and thereafter provide such data on a regular basis.
- l) All elephant range States with significant elephant populations are encouraged to undertake regular, reliable elephant population surveys using MIKE survey standards, and report the results to the African and Asian Elephant Database.
- m) The elephant range States in central Africa are encouraged to act upon the proposal by the Ministry of Environment, Conservation and Tourism of the Democratic Republic of the Congo to hold a regional conference on elephants to bring together national ministers responsible for environment, defence, Customs and police (noting that external co-funding may be required to hold such a conference). The conference should take account of, and build upon, relevant existing regional structures and action plans (including the *Plan d'action sous régional des pays de l'espace COMIFAC pour le renforcement de l'application des législations nationales sur la faune sauvage 2012-2017*¹), and outputs from the *Central African Workshop on Wildlife Trafficking and Dismantling Transnational Illicit Networks* (Libreville, April 2012).

Directed to the Standing Committee

- n) In its implementation of Decision 15.74 concerning the revision of Resolution Conf. 10.10 (CoP15), the Standing Committee agrees to consider including a system for regular reporting on and monitoring of elephant ivory stockpiles, and provisions for the collection of ivory samples from large-scale seizures for DNA, isotopic and other forensic analyses.

Directed to the Secretariat

- o) The Secretariat shall evaluate China's report, submitted in compliance with the recommendation in paragraph d) above, and convey its findings and recommendations to the Standing Committee at its 63rd meeting.
- p) The Secretariat shall contact each Party that has been identified in the ETIS analysis as involved in substantial illegal ivory trade as a source, transit or destination country, but that has reported few seizures of elephant specimens, or none, to ETIS, to seek clarification on how it implements the provisions of Resolution 10.10 (Rev. CoP15) and Decision 13.26 (Rev. CoP15) concerning controls of trade in ivory. The Secretariat shall report its findings and recommendations to the Standing Committee.

¹ *Subregional action plan of the countries of the COMIFAC area for reinforcing the implementation of national legislation on wild fauna 2012-2017.*

STATUS OF ELEPHANT POPULATIONS, LEVELS OF ILLEGAL KILLING AND THE TRADE IN IVORY: A REPORT TO THE CITES STANDING COMMITTEE²

Introduction

In Decision 14.78 (Rev. CoP15), the Conference of the Parties directs the Secretariat to produce an updated analysis of MIKE data, and invites TRAFFIC to submit an updated analysis of ETIS data, the UNEP World Conservation Monitoring Centre (UNEP-WCMC) to provide an overview of the latest elephant trade data, and the IUCN/SSC African and Asian Elephant Specialist Groups to submit new and relevant information on the conservation status of elephants, and on pertinent conservation actions and management strategies, for consideration at the present meeting of the Standing Committee. This document has been prepared accordingly and is presented as an integrated piece of work to assess the status of elephants, levels of illegal killing and trade in ivory.

Decision 14.78 (Rev. CoP15) recognizes four global monitoring systems for elephants and trade in elephant specimens. The programme for Monitoring the Illegal Killing of Elephants (MIKE), managed by the CITES Secretariat, and the Elephant Trade Information System (ETIS), managed by TRAFFIC to track illegal trade in ivory and other elephant specimens, are mandated by the CITES Parties through Resolution Conf. 10.10 (Rev. CoP15). Thirdly, Article VIII, paragraph 7 (a), of the Convention requires CITES Parties to submit annual reports on the trade they conduct in specimens of CITES-listed species. These data, including legal trade in all elephant specimens, are compiled by UNEP-WCMC. Finally, IUCN, through the SSC African Elephant and Asian Elephant Specialist Groups, maintains the African and Asian Elephant Database, housing information on elephant population numbers and range.

Bringing together updated and critical information and data on elephants in an integrated manner, this report represents the second effort to provide information on the illegal trade in elephant ivory from a supply chain perspective to the CITES Standing Committee. Work continues to enhance and further develop linkages between ETIS, MIKE, and the IUCN/SSC African and Asian Elephant Specialist Groups. This integration is considered essential to support evidence-based decision-making for elephants in the CITES context.

Asian elephants (*Elephas maximus*): status, threats and conservation actions³

This section draws on survey reports collected by the IUCN/SSC Asian Elephant Specialist Group (AsESG), the CITES MIKE programme, the Smithsonian Institution, the World Wide Fund For Nature (WWF), and the Wildlife Conservation Society (WCS) since the preparation of document SC61 Doc. 44.2 (Rev. 1); this section also considers recent research (both published and unpublished) to outline the status of and major threats to elephants in Asia, and the status of conservation strategies and actions. Curation of these data by the AsESG is underway and will allow the publication of an Asian Elephant Status Report, pending necessary funding.

IUCN Red List status

While the global status of Asian elephants in the IUCN Red List remains "Endangered" (A2c; version 3.1; Choudhury *et al.*, 2008), the AsESG listed the Sumatran elephant (*E. m. sumatranus*) as "Critically Endangered" (A2c; ver 3.1) in November 2011 (Gopala *et al.*, 2011). The primary reason for the Critically Endangered listing was the scale and rate of habitat loss: taking ca. 25 years as a single generation (*sensu* IUCN, 2001) for Asian elephants, over 69 % of potential Sumatran elephant habitat has been lost within just one generation (see Figure A1 in document SC62 Inf. 1) and the driving forces that are causing the habitat loss are still continuing. Moreover, there is clear direct evidence from two Sumatran Provinces (Riau and Lampung) to show that entire elephant populations have disappeared as a result of the habitat loss over the past 25 years: nine populations have been lost since the mid-1980s in Lampung (Hedges *et al.*, 2005) and a 2009 survey of nine forest blocks in Riau that had elephant herds in 2007 revealed that six herds had gone extinct (Desai, 2007). That this pattern will continue seems certain.

² The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

³ This section has been contributed by the IUCN/SSC Asian Elephant Specialist Group.

Geographic range

An updated range map is not currently available, but the AsESG intends to produce one before the end of 2012. The current range data are, however, now available at the African and Asian Elephant Database web interface (<http://elephantdatabase.org>).

Population size and trend

The most recent published source on the status of Asian elephants in the 13 range States remains that summarized by the AsESG in 2008 (Choudhury *et al.*, 2008) and updated for document SC61 Doc. 44.2 (Rev. 1). However, the Asian elephant population data are now being added to the African and Asian Elephant Database. Since the preparation of document SC61 Doc. 44.2 (Rev. 1), a number of new surveys have been conducted or are underway, including in Cambodia, India, Indonesia, the Lao People's Democratic Republic, and Thailand. Several of these new surveys (Way Kambas National Park and Bukit Barisan Selatan National Park in Indonesia, and Seima Protection Forest in Cambodia) represent the first repeat surveys using standardized peer-reviewed methods for these areas (all of which are MIKE sites). They will allow inferences to be made about population trend if the time series of surveys continues as planned. Analysis of the available population data utilizing the AsESG's analytical framework is ongoing. Surveys are planned for 2012 or 2013 for a number of sites, including Xishuangbanna (China), the Northern Plains (Cambodia), and the Nakai Plateau (Lao People's Democratic Republic).

Threats

The pre-eminent threats to the Asian elephant remain habitat loss, degradation and fragmentation, which are driven by an expanding human population, and lead in turn to increasing conflicts between humans and elephants when elephants eat or trample crops, and injure or kill people. Hundreds of people and elephants are killed annually as a result of such conflicts. Fortunately, a number of recent successes in reducing human–elephant conflict (HEC) using community-based, low-cost and low-tech methods have emerged and have in some cases helped reduce HEC at the protected-area scale (Davies *et al.*, 2011; Gunaryadi *et al.*, in review).

While reliable estimates of the number of Asian elephants killed illegally and the quantities of ivory and other body parts collected and traded remain hard to come by, there are worrying indications that the illegal killing of Asian elephants has increased in recent years (WCS unpublished data). Indeed, the reporting of elephant carcasses and law enforcement monitoring data from Asia to the MIKE programme remains wholly inadequate. Rates of reporting to ETIS also remain poor from both south and Southeast Asia. Fortunately, there are signs that many range States and their NGO partners are increasing their efforts to monitor the illegal killing of Asian elephants. In addition, there are encouraging signs that isotope- and DNA-based techniques for ageing and identifying the source of ivory will be deployed more widely in Asia. If this does indeed prove to be the case, much valuable data about the dynamics of the illegal ivory supply chain will become available in the near future. A worrying trend, however, which has become clearer since the preparation of document SC61 Doc. 44.2 (Rev. 1), is the significant deterioration in China's domestic ivory trade control system (Martin and Vigne, 2011; EIA, 2012).

An additional threat to Asian elephants, which also seems to be increasing – even since the 61st meeting of the Standing Committee (SC61, Geneva, August 2011) – is the illegal international trade in live wild-caught elephants for the circus trade in China and the tourist trade in Thailand. More data are needed to set this threat in its proper context; however, recent reports suggest that the trade in live elephants, taken from the wild in Myanmar and traded in Thailand, largely to tourist companies for elephant trekking, is an increasingly serious concern. A document to be released by Elephant Family at the present meeting will highlight this trade and its extent but anecdotal information to date suggests that hundreds of elephants have been removed from the wild for Thailand's trekking industry – most of these being juveniles. In addition to the number of laws broken along this illicit trade chain, the conservation implications are also a serious concern. There is little or no information regarding the size of the remaining populations of elephants in the areas where the captures are taking place, and even less information on how the trade is affecting them and their social structure.

Conservation strategies and action plans

Since the preparation of document SC61 Doc. 44.2 (Rev. 1), the Indonesian Government has begun updating its National Elephant Action Plan and the Malaysian Government has begun preparing a National Elephant Conservation Action Plan, working with NGO and university partners. The AsESG is also in the

process of compiling an Asian Elephant Conservation Strategy, working with representatives of range States, NGOs, and other stakeholders.

African elephants (*Loxodonta africana*): status, threats and conservation actions⁴

This section draws on survey reports collected by the IUCN/SSC African Elephant Specialist Group (AfESG) and the CITES MIKE programme since the preparation of document SC61 Doc. 44.2 (Rev. 1), as well as recent published research to outline the status and major threats to elephants, and the status of conservation strategies and actions. Funding was secured in January 2012 to allow input of all African elephant population data into the African and Asian Elephant Database, and this work commenced in March 2012 following recruitment of a Database Officer. Initial analyses will be available in document SC62 Inf. 1.

Taxonomy

Three papers published in the last two years on the genetics of the African elephant (Rohland *et al.*, 2010; Ishida *et al.*, 2011a; and Ishida *et al.*, 2011b) argue for a division of the African elephant into two species. While there are still outstanding queries from the AfESG's "Statement on the Taxonomy of extant *Loxodonta*" (AfESG, 2003) which have not been satisfied, a more practical problem is where exactly to draw the geographical line between the two potential species. Until this query and the outstanding research questions from the 2003 AfESG statement have been fully clarified, the AfESG considers it premature to divide the African elephant into two species. Nevertheless, the AfESG stresses the importance in recognizing the different challenges facing forest and savanna elephant conservation.

Geographic range

An updated range map is not currently available, but the AfESG intends to produce one before the end of 2012.

Population status

A majority of the available African elephant survey information since the publication of 2007 African Elephant Status Report (Blanc *et al.*, 2007) is now available at the African and Asian Elephant Database Web interface (<http://elephantdatabase.org>). New survey data are being added daily. Since the preparation of document SC61 Doc. 44.2 (Rev. 1), a number of new surveys have been collected and these are summarized in Table B1 in document SC62 Inf. 1). Analysis of the available population data utilizing the AfESG's analytical framework is ongoing. A number of important elephant populations, such as Selous Ecosystem in the United Republic of Tanzania, Niassa Ecosystem in Mozambique, Chewore MIKE site in Zimbabwe, Luangwa Valley in Zambia, and Ndoki-Likouala Landscape in the Congo, were surveyed in 2011, but survey reports are not yet available. As such, it is not possible to provide pooled estimates at the regional and continental levels for 2011 at this time.

In central Africa, monitoring continues to be a challenge, both financially and logistically. Recent research suggests that daytime monitoring of forest clearings (known as "bais") may be biased and argues for the adoption of acoustic monitoring (Wrege *et al.*, 2011). Results from a 2012 count in the Boumba Bek MIKE site in Cameroon will provide some useful information on monitoring methods. Survey results from a set of great ape and elephant surveys across central Africa are currently being compiled for publication. A 2008 survey of the Faro, Benoué and Bouba Ndjida ecosystem in northern Cameroon (Omondi *et al.* 2008) provides the only baseline against which to assess the recent poaching surge in that area (Nouredine, 2012). A new analysis of information is available for central and west Africa's Sudano-Sahelian region (Bouché, 2012) and suggests that elephant populations have been increasingly fragmented and confined to protected areas in this region.

In eastern Africa, surveys in Kenya, Uganda and the United Republic of Tanzania have contributed to current knowledge of elephant populations in this subregion. Nyamu *et al.* (2010) suggest that there may be a range expansion in parts of southern Kenya, while a recent count in the Tsavo Mkomazi ecosystem reflected a continuing increase in elephant numbers, but also in the carcass ratio, indicating possible increasing poaching pressure on this population.

Surveys of both the Kafue and Luangwa ecosystems were undertaken in Zambia in 2011, but only the results from Kafue are currently available (Frederick, 2011). A survey of northern Botswana was conducted

⁴ This section has been contributed by the IUCN/SSC African Elephant Specialist Group.

in 2010, and the results became available in 2011. However, the 2011 survey covered a different area and was completed later in the year than previous surveys of northern Botswana, and therefore the results are not directly comparable. Nevertheless, results suggest that the elephant population is stabilizing, partially as a result of emigration into new or historical range areas (Chase, 2011).

Surveys have been conducted or are planned in 2012 for a number of sites, including Boumba Bek (Cameroon), Garamba (Democratic Republic of the Congo), WAPOK ecosystem (west Africa), Yankari (Nigeria), Konkoumbouri and Comoé Léraba (Burkina Faso), and Arabuko Sokoke (Kenya).

Threats

Land use pressure, habitat loss, human elephant conflict, and illegal killing for both meat and ivory continue to pose threats to the long-term survival of elephant populations across Africa. Recent research also points to climate change and the increasing frequency of droughts as a major threat to elephant populations in the Sudano-Sahelian region (Bouché, 2012). Human-elephant conflict in particular continues to pose a serious challenge across much of the range. Although a number of innovative methods are emerging to add to the toolbox to help mitigate this conflict (Graham *et al.*, 2011; King, 2011), long-term land use planning and cooperative management of elephant populations with local communities are required to provide sustainable solutions. Studies of elephant movement patterns are ongoing in many sites (Boettiger *et al.*, 2011; Duffy *et al.*, 2010; von Gerhardt-Weber, 2011) and these could provide useful information for land-use planning. The impact, both positive and negative, of elephants on other biodiversity continues to be a topic of research and concern (Gandiwa *et al.*, 2011; Kohi *et al.*, 2011; Epps *et al.*, 2011; Odadi *et al.*, 2011).

As the analysis of MIKE data in this document shows, the levels of illegal killing across the entire African elephant range are of serious and increasing concern. In March 2012, the AfESG sent out a questionnaire on poaching levels and dynamics to the AfESG members and its network of elephant researchers and managers across Africa. The responses covered 29 sites in 12 countries (Cameroon, the Central African Republic, Chad, the Democratic Republic of the Congo, Kenya, Gabon, Mozambique, the Republic of the Congo, South Africa, the United Republic of Tanzania, Zambia and Zimbabwe), and increased poaching over the last 12 months was reported in 19 sites in nine countries (Cameroon, Central African Republic, the Democratic Republic of the Congo, Kenya, Gabon, Mozambique, the Republic of the Congo, the United Republic of Tanzania and Zambia). These responses reinforce the MIKE analysis and the published literature presented in this document, and provide a basis for the AfESG to further query its network. However, more than half of the respondents asked not to be named or quoted in this analysis, which poses challenges for further elucidation of the information and also raises concerns about the possible fear of repercussions which might have led those respondents to keep their contributions anonymous.

The rise in levels of illegal killing and the dynamics surrounding it are worrying, not only for small and fragmented elephant populations that could face extirpation, but also for previously secure large populations. Conflict situations are known to deteriorate further the poor protection afforded to elephants (Beyers *et al.*, 2011) and this is of concern in particular for areas with emerging and ongoing instability. At a minimum, armed conflict hampers monitoring activities. The section on *Monitoring the Illegal Killing of Elephants (MIKE)* further below provides further detail on the current poaching trend and possible factors driving the increase in illegal killing.

Conservation strategies and actions

Two new country-level strategies and action plans have been published in the past year, by Kenya (KWS, 2012) and the United Republic of Tanzania (TAWIRI, 2012). A list of existing national plans and strategies is provided in document SC62 Inf. 1. The signatories to the intergovernmental memorandum of understanding concerning the conservation of elephants in west Africa under the Convention on the Conservation of Migratory Species of Wild Animals (CMS) met in Niamey, Niger in June 2011 to determine steps forward for continued implementation of the *West African Elephant Conservation Strategy*. Regarding a potential CMS agreement on the conservation of elephants in central Africa, the Conference of the Parties to CMS urged range States and other potential collaborators at its 10th meeting to undertake further consultations on this issue (CMS, 2011). In November 2011, COMIFAC agreed on an action plan for 2012-2017 to strengthen enforcement of national wildlife laws in the region (COMIFAC, 2011). Bilateral and multilateral collaboration on transboundary ecosystems continues to be strengthened, with the official launch of the KAZA Transfrontier Conservation Area, recent collaboration on the Kenya- United Republic of Tanzania borderlands region, and others.

In April 2012, the African elephant range States met at the Fourth African Elephant Meeting, held in Nairobi, Kenya, under the auspices of the CITES MIKE Programme. At the meeting, the range States recognized the seriousness of the ongoing escalation in levels of illegal killing of elephants and the illegal trade in ivory, as well as the need for an urgent and escalated response at all levels. They further recognized the need for substantial resources, from both within and outside the range States, to address the emergency. The range States reiterated their commitment to the implementation of the *African elephant action plan* while calling for donors to support its implementation through the African Elephant Fund as well as MIKE and ETIS.

Implementation of the *African elephant action plan*⁵

The *African elephant action plan* was adopted by African elephant range States in March 2010 (see document CoP15 Inf. 68). As reported at SC61, the African Elephant Fund (AEF) and the African Elephant Fund Steering Committee (AEFSC) were established in accordance with Decision 14.79 (Rev. CoP15) in the course of 2011 to support the implementation of the *Action plan* (see document SC62 Doc. 9.5).

The AEFSC, chaired by South Africa, held its first meeting from 12 to 14 December 2011 in South Africa to initiate the AEF funding allocation process. Financial support for this meeting was provided by Germany, and financial as well as logistical support by the host country. To facilitate the allocation of the funds, draft pilot projects proposals (for small grants of EUR 20,000 per African subregion) had been developed by the four African subregions in a format agreed by the AEFSC. These proposals needed to focus on the first three objectives of the *African elephant action plan*:

1. Reduced illegal killing of elephants and illegal trade in elephant products;
2. Maintained elephant habitats and restored connectivity; and
3. Reduced human-elephant conflict.

At this first meeting, the AEFSC discussed in detail the management and division of the funds. It was agreed that funds in the AEF that were not earmarked should be divided into 70 % for a regional account (to be divided into four equal parts for each of the African subregions, and allocated to proposals submitted by African elephant range States), and 30 % for a discretionary account (to be allocated to proposals identified by the AEFSC as urgent and consistent with the AEAP's Objectives 1, 2 or 3). This ratio may only be altered by consensus of the African elephant range States.

The AEFSC agreed for South Africa to chair for a period of three years to facilitate the first phase of implementation of the projects funded through the AEF. The AEFSC emphasized the importance of ensuring that correspondence and documents be in English and French, but recognized that this was a challenge owing to the lack of secretariat services and means to pay for translations. In the interim, the AEFSC members were requested to assist with translations.

The template for project proposals would be amended to simplify certain requirements; provide for a clear breakdown of the project costs (overall costs vs amount requested from the AEF); and provide for detailed reporting requirements, including time frames for reporting. The AEFSC also agreed to compile a list of specific budget items that should not be funded through the AEF, such as daily allowances and transport within a country, and that these should be covered through resources committed by the proposing government or funding from other sources.

At the meeting, the AEFSC evaluated 13 project proposals and formulated comments and recommendations for each, which were subsequently communicated to the proponents. The project assessment and evaluation criteria were agreed to include: a) sustainability; b) transparency; c) quality; d) uniqueness; e) innovation and potential to replicate; and f) good governance. Based on the available funds in the AEF, the AEFSC could allocate approximately USD 28,000 to each subregion, and USD 48,106 were available for urgent proposals. Unfortunately, the limited funds in the AEF meant that the AEFSC could not approve all proposals in this first phase of implementation.

The AEFSC recommended the funding of the following proposals through the AEF, provided the recommendations made by the AEFSC were addressed:

⁵ This section has been contributed by South Africa, Chair of the African Elephant Fund Steering Committee.

Central Africa:

1. Congo: Study concerning the elaboration of a national strategy for the attenuation of human-elephant conflicts in the Congo (USD 16,545 from subregional account).
2. Gabon: Construction of a warehouse for confiscated ivory in Libreville (USD 26,579 from discretionary account).

Eastern Africa

3. Ethiopia: Awareness-raising campaign to control illegal trade in elephant ivory in Ethiopia (USD 20,000 from subregional account).

Southern Africa

4. Malawi: Strengthening the law enforcement capacity of the Department of National Parks and Wildlife (USD 20,000 from subregional account).

Western Africa

5. Benin: Study of trade circuits of ivory and ivory-based products between Benin, Burkina Faso, Niger and Togo (USD 29,269 from subregional account).
6. Nigeria: Strengthening law enforcement and reducing elephant poaching in Yankari Game Reserve (USD 14,850 from discretionary account; proposal to be re-submitted to address recommendations of AEFSC).

Proposals not retained for this first round of project review should be amended in accordance with the recommendations of the AEFSC, and may be re-submitted through the relevant subregional AEFSC representatives. These proposals comprised the following:

Southern Africa

1. Zambia: Mitigation of human-elephant conflict in the Lupande and Chiawa game management areas in Zambia (USD 159,750).

Western Africa

2. Benin: Upgrading of the elephant circuits (routes) of the clustered Forests of the Goumgoum and the Sota of Benin (USD 29,370).
3. Benin: Capacity building of the local authorities and the bordering populations to the National Park 'W' for the conservation of elephants (USD 27,735).
4. Burkina Faso: Capacity building of the management of human/elephant conflicts in Burkina Faso (USD 57,000).
5. Liberia: Human-elephant Conflict (USD 20,000).
6. Mali: Contribution to the management of space (habitat) and human-elephant conflict in Gourma, Mali (USD 25,672).
7. Senegal: Project to support the improvement of the elephant population in the Nukulabar (Niokolo Koba) National Park (USD 72,067).

The AEFSC concluded that, to ensure the successful and effective implementation of the *African elephant action plan* through the AEF, dedicated secretarial support and translation services would be required and that these should be secured as a matter of urgency. The Chair of the AEFSC submitted a formal request to UNEP regarding the provision of such services.

Monitoring the Illegal Killing of Elephants (MIKE)⁶

An analysis of data compiled by the CITES MIKE programme was conducted in February 2012 and duly reviewed by the MIKE Technical Advisory Group (TAG), for consideration at the present meeting. The analysis builds on previous MIKE analyses submitted to CITES at the 15th meeting of the Conference of the Parties (CoP15, Doha, 2010) and SC61. New features and refinements in this analysis include new site-level covariates, a more thorough analysis of trends and estimates of the scale of poaching at MIKE sites. This section presents a summary of the results of the analysis. Additional technical information and data tables can be found in document SC62 Inf. 1.

Data for 1,408 new carcasses collected in 2011 were received from 37 sites in Africa. Only five Asian sites reported any carcasses in 2011, with four sites reporting one carcass each and one site reporting three carcasses. In view of this, and in view of the fact that no data for Asian sites could be obtained for the previous report, the analysis was restricted to African sites only. Notable gaps in the African data for 2011 include all but two of the 11 participating west African range States. As noted in the previous report, there continues to be ample room for improvement in reporting in west Africa and Asia.

The data set used for analysis consists of 8,575 records of carcasses of elephants that died between 2002 and 2011 in 49 MIKE sites in 27 range States in Africa, representing a total of 348 site-years. The data can be found in Table C1 of document SC62 Inf. 1.

The MIKE programme evaluates relative poaching levels based on the Proportion of Illegally Killed Elephants (PIKE), which is calculated as the number of illegally killed elephants found divided by the total number of elephant carcasses encountered by patrols or other means, aggregated by year for each site. PIKE may be affected by a number of potential biases related to data quality, carcass detection probabilities and other factors, and hence results need to be interpreted with caution. However, the fact that the quantitative results presented below are in good agreement with quantitative and qualitative information available from ETIS, the AfESG and its network, and media sources, gives confidence as to the robustness of the results.

Trends and levels of illegal killing of elephants

Figure 1 shows time trends in PIKE at the continental level for African MIKE sites, with error bars (95 % confidence intervals). The data suggest an ongoing increase in levels of illegal killing of elephants since 2006, with 2011 displaying the highest levels of poaching since MIKE records began. This increase is statistically significant with respect to 2010, which had the second-highest levels on record.

As Figure 2 shows, poaching levels are now clearly increasing in all African subregions. While central Africa continues to display the highest levels of elephant poaching in any subregion, PIKE levels were above 0.5 in all four subregions in 2011. This level is believed by the TAG to be the threshold above which elephant populations are very likely to be in net decline.

Factors associated with levels of illegal killing of elephants

The MIKE analysis evaluated the relationships between poaching levels and a wide range of factors at the site, country and global levels, which are considered in turn below. The overall model, which includes the factors described below, explains nearly 65 % of the total variation in PIKE (see document SC62 Inf. 1 for details). Figure 3 shows the relationships between PIKE and the various site-level covariates that emerged as important correlates of PIKE.

Site-level factors

Infant mortality in and around MIKE sites, which is used as a proxy for poverty at the site level, continues to be the single strongest site-level predictor of PIKE, with sites suffering from higher levels of poverty experiencing higher levels of elephant poaching.

⁶ This section has been contributed by the CITES Secretariat's programme for Monitoring the Illegal Killing of Elephants (MIKE).

Figure 1. PIKE trends in Africa with 95 % confidence intervals.
The number of carcasses on which the chart is based is shown at the bottom of the figure.

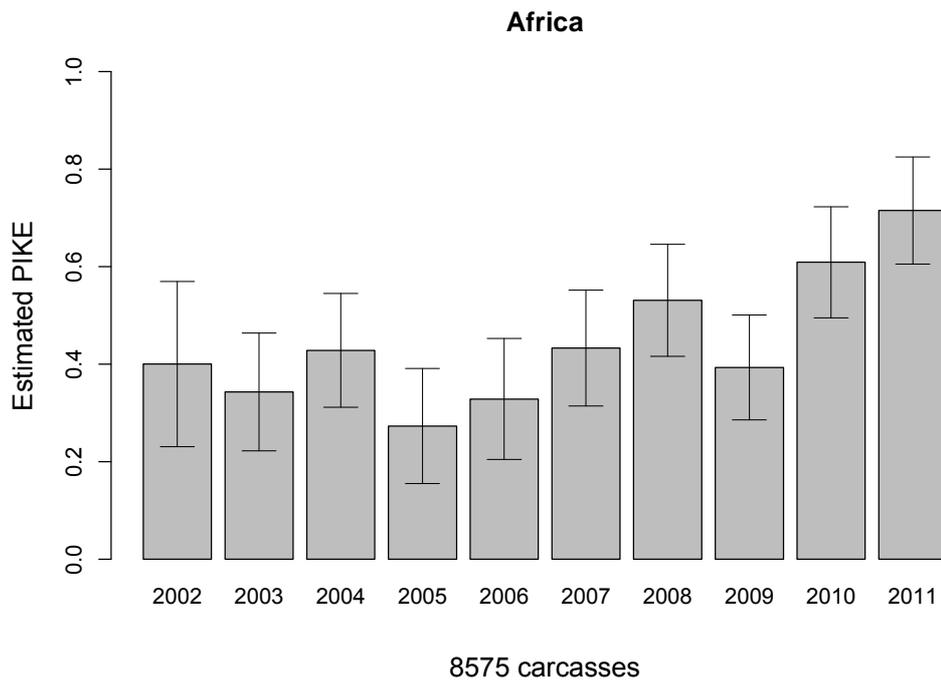
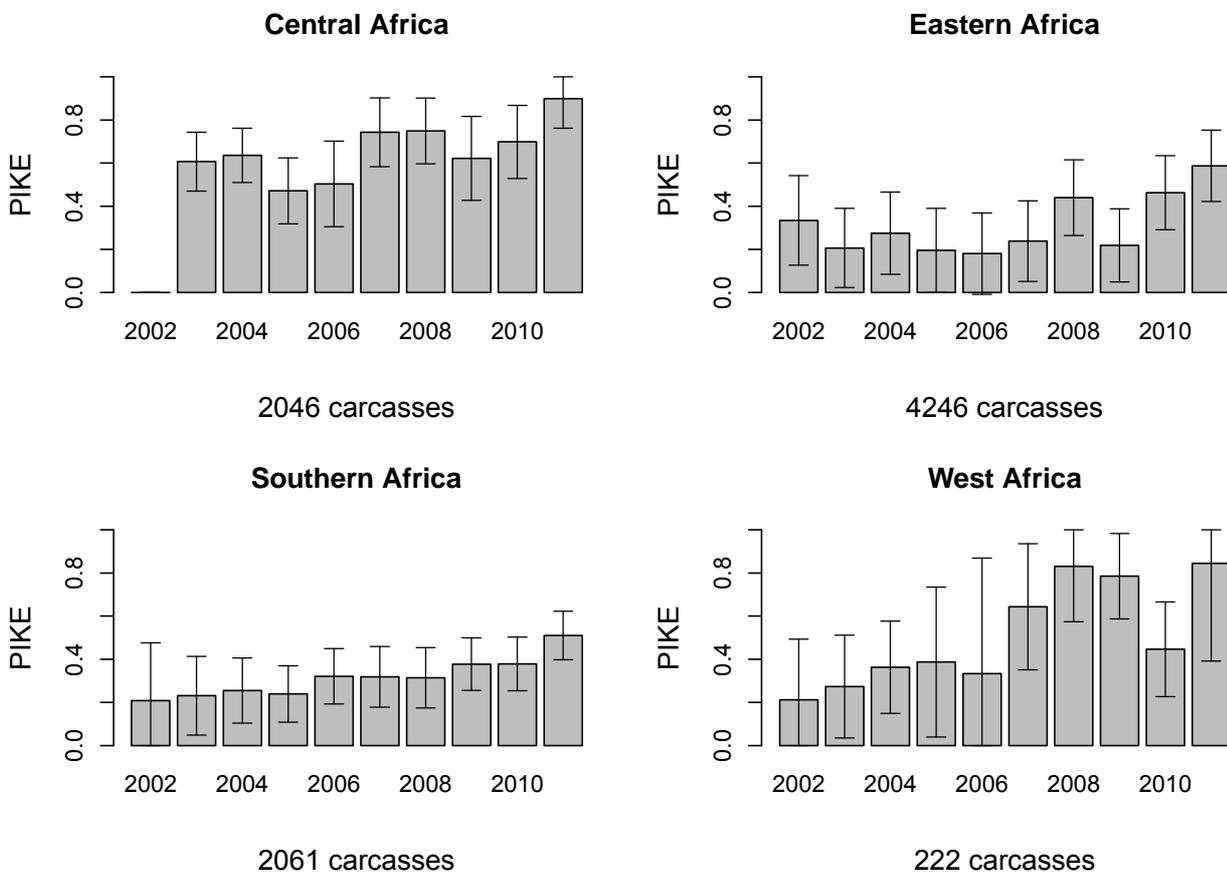


Figure 2. Subregional PIKE trends with 95 % confidence intervals.
The numbers of carcasses on which the graphs are based are shown at the bottom of each graph.



Both livestock density and crop occurrence are negatively related to PIKE. These variables were merged into a single variable named 'farming' and used as a proxy for food security. The relationship between farming and PIKE may be confounded by the fact that both crop occurrence and livestock density are strongly correlated with human population density. Nevertheless, there is only weak evidence of a (negative) relationship between human population density and PIKE. The relationships between poverty, food security and PIKE highlight a close linkage between the well-being of local communities and the health of elephant populations, and suggest that there may be a greater incentive to facilitate or participate in the illegal killing of elephants in areas where human livelihoods are insecure.

Time-dependent measures of law enforcement effort and the adequacy of research and monitoring at MIKE sites were introduced in this analysis. The variables were obtained from questionnaires completed by MIKE Subregional Support Officers using standardized methodologies from the Management Effectiveness Tracking Tool (METT) developed by the World Bank and WWF, and the Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) tool developed by WWF [see document SC62 Inf. 1 and Leverington *et al.*, (2008) for details]. Results show that sites with a better law enforcement capacity tend to experience lower levels of poaching. In contrast, sites with better research and monitoring efforts tend to report higher PIKE levels, suggesting that better monitoring results in higher detection rates of elephants killed illegally.

In the two previous MIKE analyses, a strong relationship was detected between vegetation density and PIKE. This variable was interpreted as an indicator of the ease with which poaching can be conducted, with higher levels of poaching in densely vegetated areas. However, in the present analysis, the effect of this variable on PIKE declined in importance to the point of becoming statistically not significant. This may be a reflection of the ongoing increase in poaching levels across the continent, which is taking place in forest and savanna alike. On the other hand, site area, which was also considered to be an indicator of ease of poaching, continues to emerge as a significant correlate of PIKE in the present analysis, with generally lower levels of poaching in larger sites.

Another new site-level, spatially explicit, time-dependent variable was introduced in the analysis, namely rainfall anomaly from Janowiak and Xie (1999). This variable, which represents the deviation from annual precipitation averages at the site level, was added in response to concerns that drought events tend to increase natural mortality and hence to 'dilute' PIKE values. Although rainfall anomaly on its own did display a positive relationship with PIKE (suggesting that lower-than-average rainfall is indeed associated with lower PIKE levels), the significance of the relationship dissipated when the variables discussed above were included in the model. Therefore, while PIKE may indeed be diluted by droughts at individual sites, this effect disappears when multiple sites and other explanatory factors are taken into consideration.

Country-level factors

As in all previous MIKE analyses, governance continues to emerge as the single most important national-level correlate of elephant poaching. The consequences of poor governance are likely to manifest themselves throughout the ivory supply chain, facilitating the movement of illegal ivory from the site all the way to the point of export, be it through weak law enforcement or active aiding and abetting by unscrupulous officials. National-level indicators of governance and human development are strongly correlated, and there is good evidence of a two-way causal relationship between the two, whereby limitations in one preclude improvements in the other (see e.g. Blackburn and Sharma 2008). While this makes it difficult to tease apart the effects of each in isolation, the empirical relationships between PIKE and site-level poverty on the one hand, and national-level governance on the other, are consistent with the hypothesis that both poverty and weak governance have detrimental impacts on elephant populations.

Global-level factors

Demand for illegal ivory is widely recognized to be a key factor driving the illegal killing of elephants. The previous analysis tested the relationship between PIKE and trends in consumer spending, as measured by the annual percentage change in household consumption expenditure, in several countries identified by ETIS as potentially important destinations or transit points for illegal ivory (namely China, Japan, Malaysia, the Philippines, Thailand and Viet Nam). China was the only one of these countries where trends in household consumption expenditure were strongly related to PIKE levels. This relationship emerged again in the present analysis. Although household consumption expenditure measures general demand for goods and services, and not demand for ivory specifically,

the increased level of consumer demand in China is mirrored by a steady increase in the wholesale price paid by carvers and ivory processors for illegal raw ivory in that country, which roughly doubled between 2002 and 2004 (from around USD 150 to USD 350 per kg) and again between 2004 and 2010 to around USD 750 per kg (Esmond Martin, pers. comm).

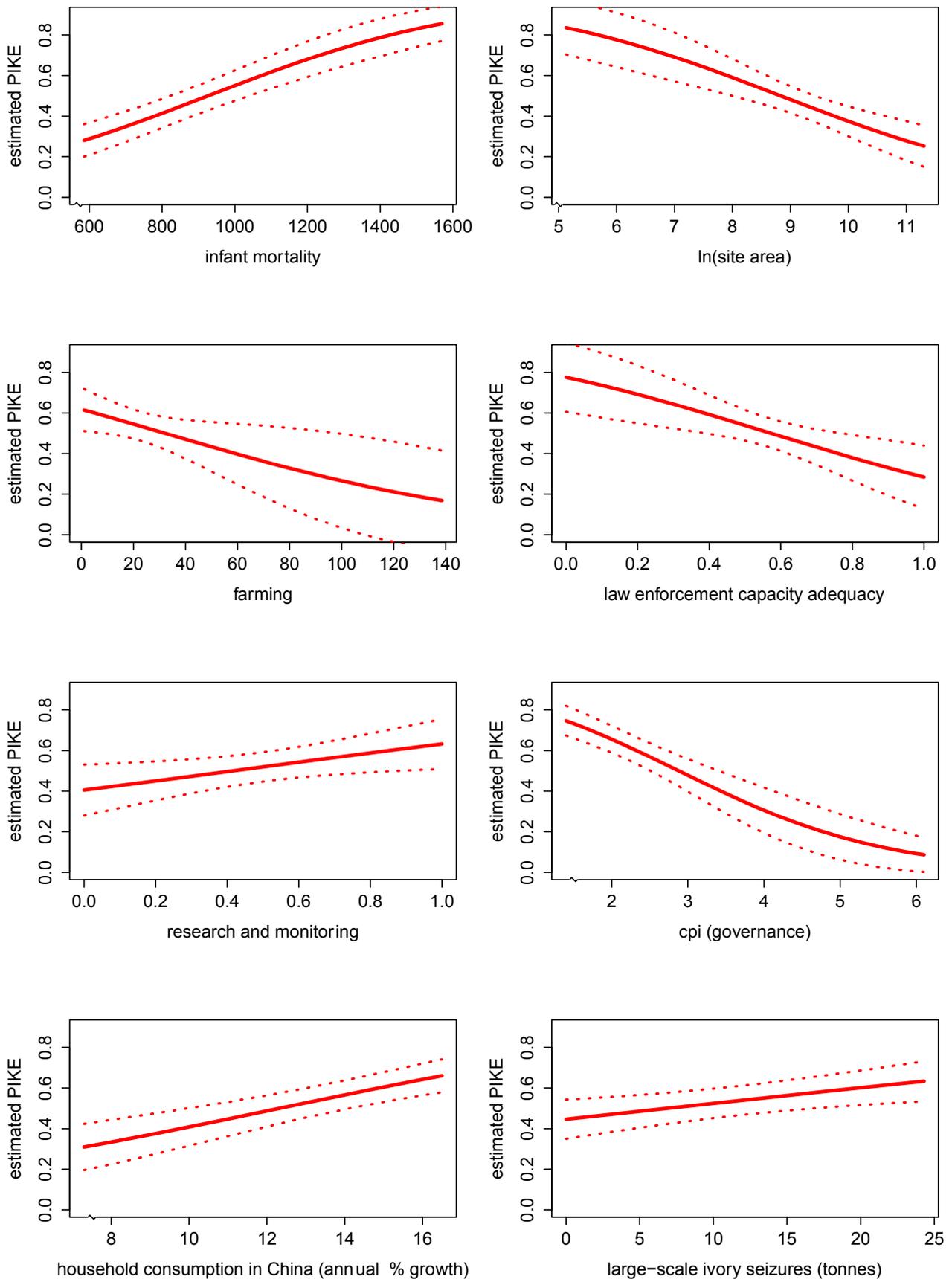
The only other country to show a relationship between PIKE and trends in household consumption expenditure in the previous analysis was Japan, although the relationship was marginal and negative. Data for Japan's household consumption in 2011 were not yet available at the time of writing, so this relationship could not be tested again for this analysis.

After the inclusion in the model of the growth in household consumption in China, and after adjusting for all the above site- and country-level variables, there remains a residual temporal trend in the data, with declining or stable PIKE levels between 2002 and 2006, and increasing thereafter to a higher level in 2011 than at any previous point in the trend. The shape of this residual trend is strikingly similar to the trend in large-scale ivory seizures by weight shown in Figure 5 of this report. Indeed, when the estimated weight of raw ivory equivalent seized annually in large-scale ivory seizures as reported by ETIS (Table 2 below) is included in the model, there remains no residual temporal trend. Thus higher levels of PIKE in a given year are associated with larger weights of ivory seized in large-scale seizures in that same year. This is a clear indication that both MIKE and ETIS are detecting essentially the same signals at different points in the illegal ivory supply chain, and gives confidence as to the robustness of the results reported by the two monitoring systems.

Concerns have been expressed in recent months that the international 'one-off' ivory sales conducted under the auspices of CITES in 2008 may have led to the observed increases in levels of illegal killing of elephants. However, the MIKE analysis found no evidence to support this view. The effect of each of the years from 2002 to 2011 on the PIKE trend was investigated through an analysis of deviance. There was no statistically significant effect of the years 2008 or 2009 on the trend, and in fact the only two significant year effects were 2005 and 2011. The year 2005 was the turning point in the trend, after which PIKE levels began to steadily increase up to the present. This was three years before the sale was conducted and two years before the Parties approved it. The year 2011 appears to represent another important point in the trend, in which PIKE levels appear to further accelerate. In view of the above, there is no evidence in the MIKE data to suggest that the 2008 sale caused poaching levels to increase or to decrease.

It is worth noting that the 2008 ivory sale coincided with the beginning of a nine-year moratorium on further ivory sales by range States whose populations are currently on Appendix II. The decisions to allow an ivory sale and at the same time prevent further legal sales effectively constitute mixed signals. Such mixed signals make it difficult to discern whether trends in MIKE data result from CITES decisions or from other factors. In order to detect effects of policy interventions, such as ivory trade decisions, such interventions would need to be unequivocal and associated with distinct points in time. This was not the case with the international ivory sale that eventually took place in late 2008, which had been the subject of CITES discussion since 2002. In addition, any hypothesis of a causal link between legal ivory sales and subsequent poaching levels would have to be clearly and carefully articulated by its proponents, specifying the expected direction, duration and spatial distribution of any effect, the expected length of any time lags, and the hypothesized causal mechanisms linking such sales to poacher behaviour. Well-articulated hypothesis and well-designed and implemented policy interventions would effectively constitute quasi-experiments, from which the MIKE and ETIS systems would eventually be able to discern any true impact of CITES decisions on poaching and possibly learn about causal links.

Figure 3. Relationships between covariates and PIKE while holding other covariates constant at their means. Dotted lines represent 95 % confidence bands.



Scale of elephant poaching

A method has been developed by Dr Kenneth Burnham, the statistical consultant to the MIKE programme, to estimate the proportion of the elephant population illegally killed in any given year at MIKE sites. This method, details of which can be found in document SC62 Inf. 1, relies on estimates of natural mortality and PIKE. As no reliable estimates of natural mortality are available across MIKE sites, lower and upper bounds for natural mortality for forest sites were set at 1 % and 4 % respectively, while for savannah sites the values used were 1.5 % and 4.5 % respectively (MIKE TAG, pers. comm). These figures, together with estimated PIKE values from the model, were used to estimate the percentage of the elephant population killed annually at reporting MIKE sites, aggregated at the subregional and continental levels, from 2005 to 2011. Given the uncertainty surrounding natural mortality rates, the figures shown in Table 1 are only rough estimates and should be interpreted with caution. Nevertheless, they do provide an indication of the possible scale of poaching at MIKE sites. Given recent and reliable elephant population estimates, the method could also be used to estimate total numbers of elephants killed annually. While such population estimates are not available for most sites, and it is therefore not possible to give absolute figures, the number of elephants being killed annually at African MIKE sites in recent years is likely to run into the tens of thousands. If PIKE values and reliable population estimates could be obtained for most sites with elephants, along with better estimates of natural mortality at each site, it would be possible to derive estimates of numbers of elephants illegally killed annually at the continental and global levels.

Table 1. Lower and upper bounds of estimated proportions of elephant populations illegally killed annually in reporting MIKE sites between 2005 and 2011, expressed as percentages. Low bounds correspond to natural mortality rates of 1 % in forest sites and 1.5 % in savannah sites, while upper bounds correspond to natural mortality rates of 4 % in forest sites and 4.5 % in savannah sites.

	2005	2006	2007	2008	2009	2010	2011
Central	1 - 4.1	2.2 - 8.5	4.0 - 15.9	3.2 - 12.5	1.6 - 6.5	4.1 - 16.1	5.8 - 22.9
Eastern	0.7 - 2.0	0.7 - 2.2	1.2 - 3.7	1.4 - 4.2	0.7 - 2.2	2.9 - 8.6	3.6 - 10.8
Southern	0.3 - 0.8	0.5 - 1.5	0.7 - 2.1	1 - 3.1	0.4 - 1.1	1.4 - 4.3	2.0 - 5.9
West	1.3 - 3.8	2.1 - 6.2	11.1 - 42.5	5.9 - 22.3	3.1 - 11.5	4.6 - 13.9	4.4 - 12.8
All	0.6 - 2.1	0.9 - 3.0	1.5 - 5.3	1.7 - 5.9	0.9 - 3.0	2.5 - 8.4	3.5 - 11.7

Legal trade in ivory⁷

Based on CITES annual report data over the period 2009-2010, an overview of reported trade in *Loxodonta africana* has been produced by UNEP-WCMC. As the deadline for submission of annual reports to CITES for 2011 is 31 October 2012, trade data for 2011 are not yet available. Reported trade in *Loxodonta africana* over the period 2009-2010 principally comprised wild-sourced hunting trophies (including tusks). In total, African range States reported the direct export of 2573 kg of tusks and 1032 tusks from wild sources in 2009 and 2010 (Tables D1 and D2 in document SC61 Inf. 1). All countries appear to be within their declared export quotas for tusks as sport-hunted trophies (Table D3 in document SC62 Inf. 1), when both tusks and trophies (treated as equivalent to two tusks) are taken into account. The Sudan (prior to secession of South Sudan) and Ghana, which have never communicated a sport-hunted trophy quota to the CITES Secretariat and had a zero export quota for raw ivory in place in both 2009 and 2010, reported the export of 95 tusks (no source reported) and two tusks (source code 'W', i.e. "Specimens taken from the wild"), respectively, in 2010. This trade has not been confirmed by the importers. Summaries of trade recorded in the CITES Trade Database, compiled by UNEP-WCMC, can be found in Tables D1 to D3 in document SC62 Inf. 1.

Illegal Trade in Elephant Specimens⁸

This section is based on data held in the Elephant Trade Information System (ETIS) as of 17 April 2012, which comprised 17,757 elephant product seizure records from 88 countries or territories since 1989 (Table E1 in SC62 Inf. 1). In comparison to the report for SC61 [document SC61 Doc. 44.2 (Rev. 1), Annex 1], there are now 828 more records in ETIS. Ethiopia, Germany, Belgium, France, Hong Kong and Kenya have contributed two-thirds of these new seizure records, with other cases received pertaining to Australia, Austria, Botswana, Cameroon, the Central African Republic, China, Gabon, Greece, Japan, Malaysia, Mozambique, Nigeria, the

⁷ This section has been contributed by UNEP-WCMC using data from the CITES Trade Database.

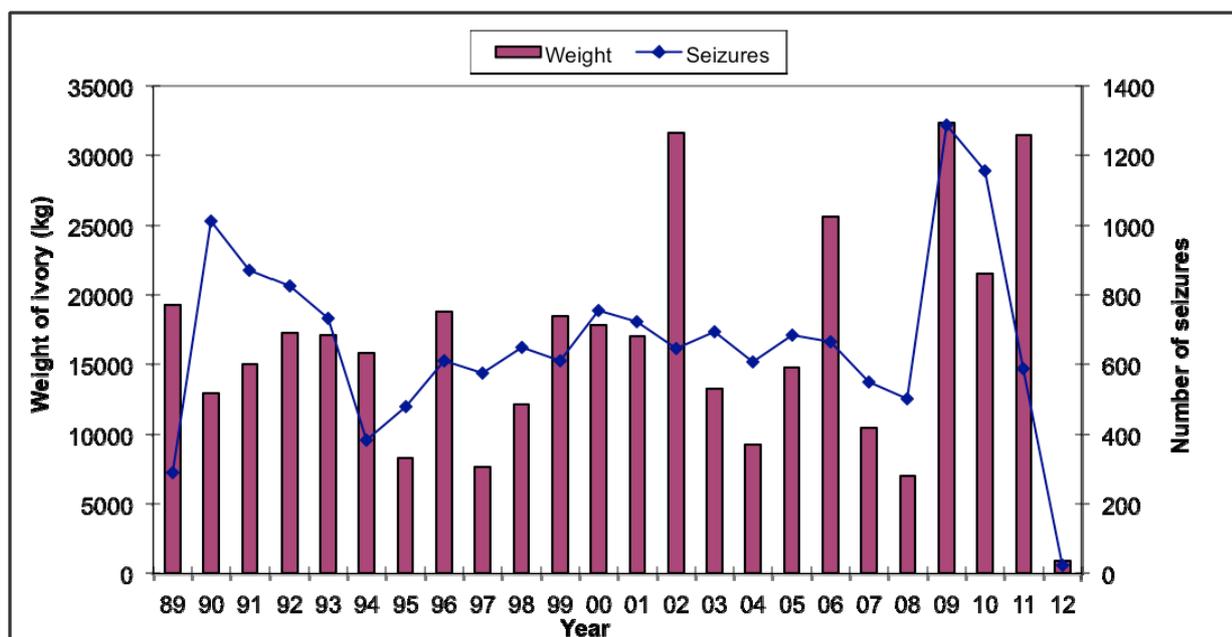
⁸ This section has been contributed by TRAFFIC.

Republic of Korea, South Africa, Switzerland, Uganda, the United Arab Emirates, the United Kingdom of Great Britain and Northern Ireland, the United Republic of Tanzania, Viet Nam, Zambia and Zimbabwe.

Eight African elephant range States (Angola, Benin, Equatorial Guinea, Guinea-Bissau, Liberia, Senegal, Somalia and Togo), and four Asian elephant range States (Bangladesh, Cambodia, the Lao People's Democratic Republic and Myanmar) have never submitted any elephant product seizure records to ETIS over the 24-year period 1989-2012, yet these countries collectively have been implicated in 572 ivory seizures that have taken place elsewhere in the world. Angola, Senegal, Equatorial Guinea and Togo account for three-quarters of these records indicating that significant exports of ivory are occurring from these countries, whilst both Cambodia and the Lao People's Democratic Republic appear to be emerging as important intermediary transit countries in Asia for ivory moving on to end-use markets in China or Thailand.

A total of 1,821 records represent non-ivory elephant products, whilst the remaining 15,936 cases concern ivory seizures. These records total 395,990 kg of ivory⁹. Annual raw data totals, with the number of seizure cases in each year, are presented in Figure 4. As can be seen in the figure, three of the five years in which the greatest volumes of ivory were seized and reported to ETIS occurred in 2009, 2010 and 2011. In terms of raw, unadjusted data, it is expected that 2011 will eventually exceed 2009 as the year in which the greatest volume of ivory was seized given that some important data sets (for example China, India, Italy, the Netherlands, Portugal, South Africa, Spain, the United Republic of Tanzania and the United States of America) still remain outstanding. Data for 2012 are only beginning to be received so that the year remains data deficient for the present time and does not factor into this discussion.

Figure 4. Estimated weight of ivory and number of seizure cases by year, 1989-2012 (ETIS, 17 April 2012).



Trends and levels of illegal ivory trade

Although a trends analysis was not conducted for this assessment, the raw, unadjusted data continue to demonstrate that record levels of ivory were seized and sustained throughout the period 2009 to 2011. Successive years of peak seizure volumes are not otherwise a pattern previously observed in the ETIS data (Figure 4) and stand as a very worrying indication that illegal trade in elephant ivory continues to surge in an unabated manner. The ETIS analysis for CoP15 reported that “the year 2009 represents the high point for illicit trade in ivory over the last decade” and cautioned that “this result is cause for concern and sufficient justification for a more forceful approach to the implementation of the *Action plan for the control of trade in African elephant ivory* articulated in Decision 13.26.” The raw, unadjusted data continue to suggest that little improvement has occurred in the two years following that report. This issue will be thoroughly explored in the context of the comprehensive analysis of the ETIS data for CoP16.

⁹ The weight (kg) values of seizure records that only report number of pieces by ivory type have been estimated using regressions models based on the current ETIS dataset. Thus, slightly different formulae have been used in comparison to similar calculations made for other ETIS analyses, and weight values of individual seizure cases may not be directly comparable between reports.

Large-scale ivory seizures

The ETIS report to SC61 drew attention to the increasingly significant role that large movements of ivory play as a driver of illegal trade in ivory, and discussed the value of using large-scale ivory seizures as a proxy measure for assessing the involvement of organized crime in the trade. ETIS recognizes seizure volumes of 800 kg or above as the threshold for defining a large-scale ivory seizure. The SC61 report warned that the engagement of organized criminal syndicates in the illicit trade in ivory between Africa and Asia was becoming increasingly more entrenched. Since then, the evidence has only served to confirm that assertion, especially as 2011 ended with more large-scale ivory seizures than any previous year in the ETIS data. From 1989 to 1999, there were 31 large-scale ivory seizures, ranging from zero to five in each of the 11 years and averaging 2.8 seizures per year over this period. The 12-year period from 2000 onwards has seen 54 large-scale ivory seizures, averaging 4.5 per year and becoming a double-digit number in 2011 for the first time in 23 years (Table 2).

As can be seen in Table 2, more than half of the large-scale ivory seizures that have occurred since 2000 have been in the last three years. How many such consignments are able to reach their final destination without detection remains unknown, but it is certain that ivory is being smuggled successfully. Plotting the data since 2000 in Table 2 in 'three-year moving averages, which serves to smooth the overall pattern in the data, a major increase in large-scale movements of ivory has been steadily occurring since 2004 (Figure 5), reflecting both an increased demand for ivory and the growing involvement of organized crime in the ivory trade.

Table 2. Number of large-scale ivory seizures and volume of ivory represented in raw ivory equivalent by year, 2000-2012 (ETIS, 17 April 2012).

Year	No. of large-scale Ivory seizures	Weight of large-scale ivory seizures (kg)
2000	5	9,505
2001	5	7,062
2002	6	19,539
2003	3	4,421
2004	2	2,750
2005	2	4,742
2006	6	16,442
2007	2	2,152
2008	0	0
2009	8	19,303
2010	6	9,797
2011	14	24,300
TOTAL	54	110,522

Figure 5. Large-scale ivory seizure volumes plotted in three-year moving averages by year, 2000-2011 (ETIS, 17 April 2012)

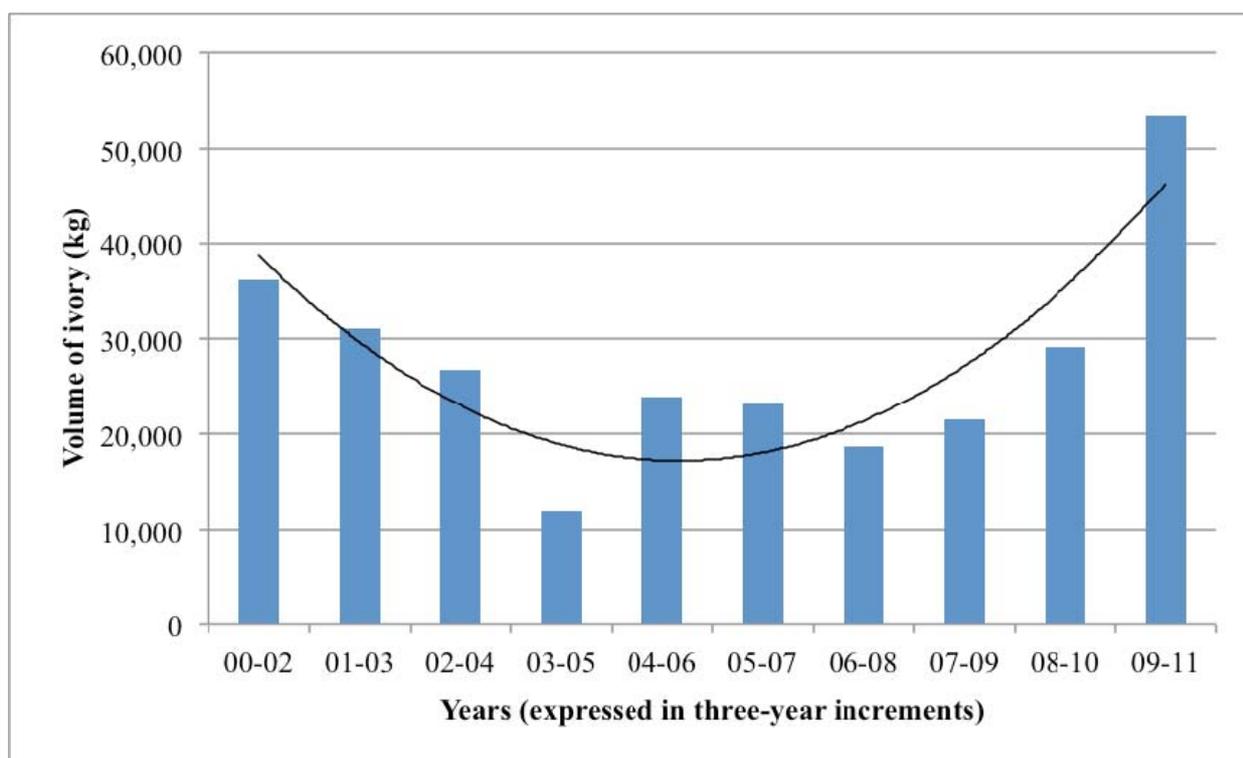


Table 3. Large-scale ivory seizures (800 kg or > at raw ivory equivalent) by country of discovery, 2009-2011 (ETIS Data, 17 April 2012)

Country or territory of discovery	Number of large-scale seizures	2009 Total seized (kg)	2010 Total seized (kg)	2011 Total seized (kg)	Country / regional Total
<i>Africa</i>					
Cameroon	1	997	-	-	997
Kenya	4	-	2,160	5,061	7,221
United Republic of Tanzania	1	-	-	1,895	1,895
South Africa	1	2,197	-	-	2,197
<i>Subtotal</i>	<i>7</i>	<i>3,194</i>	<i>2,160</i>	<i>6,956</i>	<i>12,310</i>
<i>Asia</i>					
China	2	1,770	-	2,236	4,006
Hong Kong (SAR)	4	-	2,507	3,088	5,595
Malaysia	4	-	-	7,961	7,961
Philippines	1	4,861	-	-	4,861
Thailand	6	1,832	3,465	3,059	8,356
Viet Nam	4	7,647	1,665	1,000	10,312
<i>Subtotal</i>	<i>21</i>	<i>16,109</i>	<i>7,637</i>	<i>17,344</i>	<i>41,091</i>
TOTAL	28	19,303	9,797	24,300	53,400

Table 4. Large-scale ivory seizures (800 kg or > at raw ivory equivalent) by country of origin or export, 2009-2011, (ETIS Data, 17 April 2012)

Country of origin or export	Number of large-scale seizures	2009 Total seized (kg)	2010 Total seized (kg)	2011 Total seized (kg)	Country / subregion Total
<i>West Africa</i>					
Nigeria	2	-	1,002	1,026	2,028
<i>WA Subtotal</i>		-	1,002	1,026	2,028
<i>Central Africa</i>					
Cameroon	1	997	-	-	997
<i>CA Subtotal</i>		997	-	-	997
<i>East Africa</i>					
Kenya	8	-	5,900	8,494	14,394
United Republic of Tanzania	7	12,507	1,505	5,793	19,806
Uganda	2	1,832	-	-	1,832
<i>EA Subtotal</i>		14,339	7,405	14,287	36,032
<i>Southern Africa</i>					
South Africa	1	-	-	2,974	2,974
Zimbabwe	1	2,197	-	-	2,197
<i>SA Subtotal</i>		2,197	-	2,974	5,171
<i>Subtotal</i>	22	17,533	8,407	18,287	44,227
Unknown	6	1,770	1,390	6,013	9,173
TOTAL	28	19,303	9,797	24,300	53,400

Looking more closely at the 28 large-scale ivory seizures that have occurred since 2009, Table 3 demonstrates that law enforcement authorities in Asian countries and territories are three times more likely to make a large seizure than their counterparts in Africa. Virtually all large-scale ivory seizures involve container shipping, a factor that imposes considerable challenges to resource-poor nations in Africa. Thailand, with six large-scale seizures, has made the most seizures, whilst Hong Kong SAR, Malaysia and Viet Nam in Asia and Kenya in Africa have each made four. Viet Nam, China (including Hong Kong SAR) and Thailand have made large-scale ivory seizures in each year during this period, seizing the greatest volumes of ivory. Collectively, all of these seizures have yielded over 53 tonnes of ivory.

In terms of ivory trade flows from Africa to Asia, East African ports remain the paramount exit point for illegal consignments of ivory today. The ETIS update for SC61 reported that:

Another important development in the ETIS data since CoP15 is the fact that the eastern Africa subregion has consolidated its position as the primary exit point for illicit ivory leaving the African continent, with Kenya and the United Republic of Tanzania as prominent countries of origin or export in the trade.

Table 4 confirms this status, with Kenya and the United Republic of Tanzania together accounting for 15 of the 28 (54 %) large-scale seizure cases, and constituting at least 64 % of the total volume of ivory seized in these transactions. Adding the volume of ivory seized in Uganda, the East African trade accounts for 68 % of the total volume of ivory seized.

There is little doubt that the East African subregion is the centre of illegal ivory trafficking at the present time. This development stands in sharp contrast and is a departure from ivory trade patterns previously seen in the past: large consignments of ivory moving out of west and central Africa have become minimal, collectively constituting only 11 % of the total of large-scale ivory seizures by number in the 2009-2011 data, a three-fold reduction from the period 2000-2008 (Table 5). MIKE data have consistently indicated the highest levels of illegal elephant killing in central African sites and continue to do so (this report). Likewise, the ETIS analysis for CoP15 and the report for SC61 reported that most large consignments of ivory from west Africa, especially those from Nigeria, were believed to constitute ivory from the central African subregion (Milliken *et al.*, 2012). Similarly, a number of large ivory shipments from East Africa also comprised central African ivory [see document SC61 Doc. 44.2 (Rev. 1), Annex 1]. Recent large-scale

ivory seizures in Malaysia coming from East Africa continue to include elephant tusks derived from the forest elephant subspecies, indicating ongoing cross-border trade from the Democratic Republic of the Congo through Uganda and on to Kenya and the United Republic of Tanzania for export to Asia. Whether the decline in large consignments of ivory directly coming from west and central African Atlantic Ocean seaports reflects a decline in elephant populations in the western part of the Congo Basin remains to be determined, but the depletion of local populations is slowly being documented (see AfESG data). Ivory trade movements out of southern Africa were far less frequent and represented another 7 % of this illegal trade in the current period.

Table 5. Number of large-scale ivory seizures (800 kg or > at raw ivory equivalent) by subregion from which they were exported, 2000-2011, (ETIS Data, 17 April 2012).

Subregion of export	Number of large-scale seizures, 2000-2008	Percentage of total, 2000-2008	Number of large-scale seizures, 2009-2011	Percentage of total, 2009-2011
West/central Africa	11	34 %	3	11 %
East Africa	11	34 %	17	61 %
Southern Africa	4	13 %	2	7 %
Unknown	6	19 %	6	21 %
Total	32	100 %	28	100 %

As shown in Table 6, in terms of end-use markets, as repeatedly reported in the past, China and Thailand are the two principal destinations for large-scale ivory consignments from Africa, with all other Asia countries identified in the data generally playing the role of transit countries and staging grounds for onward shipment to one of these two destinations (Milliken *et al.*, 2012). Indeed, minimally representing more than half of the total (54 %), China (including Hong Kong SAR) is the paramount destination for large-scale ivory consignments. Another 12 % of the ivory was seized in, or headed for, the ivory market in Thailand. With respect to another 22 %, it is not possible to state with certainty the final destination of the ivory in question, but traders and carvers in either China or Thailand would have been the likely recipient. For another four cases (12.7 %), which were mostly seized in Africa, the final destination is not at all clear.

New trade routes appear to be emerging. For example, in 2011, two consignments, one seized in Kenya and one seized in Malaysia coming from Kenya, were reportedly destined for Cambodia, a country that has never previously appeared in the ETIS data as a destination or transit country for large shipments of ivory. With only a very small local ivory market nationally, it is believed that these consignments were to be subsequently moved overland to neighbouring Thailand or, alternatively, through the neighbouring Lao People's Democratic Republic, into China's Yunnan Province. Use of Cambodia's Shihanoukville Port, the country's only deep water port, as an export destination for ivory from Africa appears to be an emerging substitute trade route to China following the series of large seizures in Viet Nam, which typically has served as an overland conduit into China's Guangxi Province, (as evidenced by the seizure of 707 ivory tusks in China on the border with Viet Nam in April 2011). Equally, such trade could be destined for the overland journey of only a few hours duration into Thailand, where law enforcement performance at the major ports of entry – Bangkok's international airport and seaport – has improved in recent years. The criminal syndicates behind these large movements of ivory are believed to be highly adaptive and the emergence of new trade routes in the ETIS data is likely to be evidence of evolving tactics.

Table 6. Large-scale ivory seizures (800 kg or > at raw ivory equivalent) by country of inferred destination, 2009-2011, (ETIS Data, 17 April 2012)

Country of inferred destination	Number of large-scale seizures	2009 Total seized (kg)	2010 Total seized (kg)	2011 Total seized (kg)	Country total	Percentage of ivory seized
<i>Asia</i>						
China	13	14,277	6,247	8,324	28,848	54.0 %
Thailand	5	1,832	1,390	3,059	6,281	11.8 %
Either	6	-	2,160	9,334	11,494	21.5 %
<i>Subtotal</i>		16,109	9,797	20,717	46,623	
<i>Unknown</i>	4	3,194	-	3,583	6,777	12.7 %
TOTAL	28	19,303	9,797	24,300	53,400	100.0 %

Large-scale movements of ivory exert tremendous influence upon illegal ivory trade trends and serve to undermine the efficacy of CITES as a mechanism to prevent such trade. It remains a worrying point of concern that very few large-scale ivory seizures actually result in successful follow-up law enforcement actions, including investigations, arrests, convictions and the imposition of penalties that serve as deterrents. International collaboration and information sharing between the country of discovery and other countries in the trade chain remain weak. Forensic evidence is rarely collected as a matter of routine government procedure, but rather occurs as a result of NGO interventions, if at all. Finally, the status of such large volumes of ivory in the hands of Customs authorities in various countries, which generally do not have robust ivory stock management systems, remains a problematic issue. Indeed, reports of Customs officials wanting to sell off the seized ivory in their possession have been received by TRAFFIC, which under Resolution Conf. 9.10 (Rev. CoP15) would be a violation of CITES requirements for the disposal of Appendix-I specimens. More worrying still, unconfirmed reports of ivory stocks subsequently going missing after their seizure and re-entering trade have also been received. The ongoing general failure to scale up law enforcement investigations and the security and transparency surrounding seized ivory stocks are two important issues for the CITES Parties to address.

Unregulated domestic ivory markets

Large-scale movements of ivory to the significant and unregulated domestic ivory market in Thailand, which fails to meet the requirements adopted in Resolution Conf. 10.10 (Rev. CoP15) for internal trade in ivory, have continued since CoP15. Whilst a welcomed degree of improved law enforcement at Thailand's ports of entry has been demonstrated in the seizure of over 8.3 tonnes of ivory since 2009 (Table 3), there is little evidence of similar law enforcement pressure on the hundreds of retail ivory vendors in the country's marketplace. The ETIS data continue to demonstrate the global reach of Thailand's ivory markets: between 2009 and 2011, more than 200 ivory seizure cases have been reported by other countries regarding illegal ivory products seized from individuals coming from Thailand. It is recognized that, pursuant to a recommendation adopted at SC61, Thailand will be reporting at the present meeting on its domestic ivory trade policy.

China's domestic ivory trade control system has also reportedly faltered considerably since the country was a CITES-approved participant in the one-off ivory sale held in four southern African countries in late 2008. Various observers to China, including TRAFFIC's own monitoring programme, have found government-accredited ivory trading retail outlets persistently selling ivory products without the benefit of product identification certificates (Martin and Vigne, 2011; EIA, 2012), which were recognized as an integral discriminating feature in the Chinese control system as described in the Annex to document SC53 Doc. 20.1. China's ivory database system was specifically designed to track ivory products at the retail level back to legal stocks of raw ivory held by approved manufacturing outlets. Allowing retail vendors the option to sell ivory products without the display and issuance of product identification certificates means that such items would not be captured in the database. This circumvention creates an opportunity for laundering products from illicit sources into the legal control system. It is recognized that, pursuant to the recommendations adopted at SC61, China was invited to reassess its internal ivory trade control system and it is hoped that a report on this topic will be offered by China at the present meeting. In the meantime, China has instigated a major law enforcement initiative against illegal trade in wildlife at the retail level through a coordinated effort involving China's National Inter-agency CITES Enforcement Coordination Group (NICECG). It has been reported that law enforcement personnel uncovered more than 700 cases of illegal wildlife trade, including the confiscation of 1.37 tonnes of ivory. It is expected that China will report in detail on this welcomed development at the present meeting.

Enforcement actions to curb the illegal trade in elephant specimens¹⁰

Implementation of Decision 13.26 (Rev. CoP15) (*Action plan for the control of trade in elephant ivory*)

The *Action plan for the control of trade in elephant ivory* emerged from the dialogue meeting of African elephant range States held before the 13th meeting of the Conference of the Parties (CoP13, Bangkok, 2004), where Decision 13.26 to implement and monitor the *Action plan* was adopted by consensus. This Decision has been re-adopted by consensus at each subsequent meeting of the Conference of the Parties with amendments to the *Action Plan* on each occasion. The Secretariat has been instructed to report upon the implementation of the *Action plan* at each regular meeting of the Standing Committee.

¹⁰ This section has been contributed by the CITES Secretariat.

Elephants and ivory trade questionnaire

In Decision 13.26 (Rev. CoP14), the Conference of the Parties instructed the Secretariat to distribute a questionnaire to elephant range States and to countries with domestic trade in ivory and those that may have seized ivory being transported or traded illegally, seeking information regarding their internal controls of trade in ivory. The Conference also decided that failure by a Party to submit the questionnaire by 31 December 2007 would result in a recommendation to suspend commercial trade in specimens of CITES-listed species with the Party in question. The questionnaire was distributed with Notification to the Parties No. 2007/029 of 17 September 2007.

By the time of SC61, Gabon and Somalia were the last two Parties that had not submitted their questionnaires and that were consequently under a recommendation to suspend trade. The Standing Committee confirmed that the Secretariat should maintain the trade suspension until the two Parties had submitted the necessary questionnaires. Gabon and Somalia eventually provided completed questionnaires on 29 November 2011 and 3 May 2012 respectively, and the recommendations to suspend trade were withdrawn (see Notifications to the Parties No. 2012/008 of 24 January 2012 and No. 2012/038 of 18 May 2012).

Scientific research

Paragraph 2 of the *Action plan* recommends that all elephant range States cooperate with relevant research projects studying the identification of ivory, especially by supplying relevant samples for DNA and other forensic science profiling. The Secretariat is of the opinion that forensic analysis can play an important role in the investigation of wildlife crime, and encourages all Parties to provide relevant samples to institutions with the capacity to determine the age and geographical origin of elephant ivory. In this context, Parties are reminded of document SC61 Inf. 4 (containing the report of a research project commissioned by Germany on *Determination of Age and Geographical Origin of African Elephant Ivory*).

Illegal export of ivory from the African continent

Paragraph 3 of the *Action plan* provides that the Secretariat should seek the assistance of governments, international organizations and non-governmental organizations in supporting the work to eradicate illegal exports of ivory from the African continent and the unregulated domestic markets that contribute to illicit trade. The Secretariat should also provide technical assistance for the implementation of the *Action plan* and work with national, regional and international law enforcement organizations and networks to assist in combating illicit trade in ivory. In this regard, considerable scope exists for the tightening of controls of both cargo and passengers at the major airports and seaports of Africa. Africa has relatively few major international airline 'hubs' and any increase in controls on export and transit at such ports is bound to pay dividends. The ease with which some air passengers are able to travel with substantial quantities of ivory continues to give grounds for concern.

Large consignments of ivory moving out of west and central Africa have become minimal. Seaports in eastern Africa are however of concern since these ports are currently the paramount exit point for illegal consignments of ivory. ETIS statistics confirms that Kenya and the United Republic of Tanzania together accounted for 15 of the 28 (54 %) large-scale ivory seizure cases between 2009 and 2011. Adding the volume of ivory seized in Uganda, the East African trade accounts for 68 % of the total volume of ivory seized.

A workshop on *Establishing a Network of Controlled Delivery Units for Forest and Wildlife Law Enforcement* was organized by the World Customs Organization under the auspices of the International Consortium on Combating Wildlife Crime (ICWC), from 7 to 9 December 2011 in Shanghai, China. The Secretariat believes that this workshop was timely and useful, and contributed to building the capacity of law enforcement officers to combat the smuggling of ivory. The value of the workshop became evident when, on 29 February 2012, authorities in South Africa conducted a successful controlled delivery with regard to a consignment of illegally smuggled ivory (see document SC62 Doc. 14.7).

Implementation of the *Action plan*

Paragraph 4 concerning the implementation of the *Action plan* calls for particular priority to several countries, including Thailand. At SC61, the Secretariat reported that Thailand's domestic ivory trade controls fell short of what was required in Resolution Conf. 10.10 (Rev. CoP15) and that unscrupulous traders were probably exploiting the domestic ivory trade situation. The Standing Committee requested

Thailand to submit a written report at the present meeting, describing progress with regard to regulating domestic trade in ivory and combating illegal ivory trade. The Secretariat reminded Thailand of this reporting requirement during April 2012 and the report is now available as document SC62 Doc. 46.2.

Based on the ETIS analysis, the Secretariat is concerned about the control of ivory in China's domestic markets. The Secretariat is of the opinion that there is a need for China to formally reassess its internal ivory trade system to ensure that it is preventing the laundering of elephant ivory from illegal sources. The Secretariat has taken note of two significant nationwide wildlife law enforcement operations in China, carried out under the auspices of the National Inter-Agency CITES Enforcement Collaboration Group, which was established in December 2011. The Secretariat is convinced that initiatives such as these two operations, during which over 100,000 enforcement officers were mobilized, will make a positive contribution to the prevention of illegal wildlife trade.

Other relevant activities

Elephant poaching in Cameroon and other parts of Africa

The MIKE analysis indicates an ongoing increase in the levels of illegal killing of elephants, with 2011 displaying the highest levels of poaching since MIKE records began. Poaching levels are increasing in all African subregions with central Africa continuing to display the highest levels of elephant poaching.

In February 2012, the Secretariat learned about the poaching of a significant number of elephants in Bouba N'Djida National Park, in northern Cameroon, by heavily armed and well organized groups. The CITES Secretary-General expressed grave concern over the alarming reports (see press release of the CITES Secretariat of 28 February 2012), and wrote to the ministers in charge of forests and wildlife from Cameroon, Chad, the Central African Republic, the Democratic Republic of the Congo and the Sudan to offer support in galvanizing enforcement efforts and transboundary mechanisms for addressing illegal trade in ivory. ICCWC also delivered a real-time response to incidents of elephant poaching (see document SC62 Doc. 14.7). Although the Secretariat noted the arrest of several poachers in southeast Cameroon during March 2012, it notes with concern that a significant number of elephants were killed before authorities in Cameroon mobilized the defence force to bring the situation under control. The Secretariat is of the opinion that there is significant room for improvement with regard to regional cooperation to combat this threat. The situation in Cameroon and its neighbouring countries remains a matter of serious concern and all possible measures should be taken to avoid the recurrence of further large-scale poaching.

In response to the Secretariat's offer of assistance, the Ministry of Environment, Conservation and Tourism of the Democratic Republic of the Congo suggested the organization of a regional conference that would bring together the ministers of environment, defence and police, to put in place cross-border mechanisms against the illegal trade in ivory and to discuss measures to prevent the recurrence of annual poaching activities by organized groups. The Secretariat supports this suggestion. Such a conference could have long-lasting positive effects on elephant conservation in the region and should preferably be arranged under the auspices of ICCWC to ensure coordinated support. The role of existing structures such as the Central Africa Forests Commission (COMIFAC), and the outcomes of the *Central African Workshop on Wildlife Trafficking and Dismantling Transnational Illicit Networks* (April 2012, Libreville) organized by the United States of America's Embassies in Gabon and the Central African Republic in collaboration with the Government of Gabon, should also be taken into consideration to ensure that new initiatives are mutually supportive and complementary, and not duplicative.

Elephant ivory stockpile management – Theft of ivory in Mozambique

In April 2012, the Secretariat was informed by the Management Authority of Mozambique, of the theft of 266 pieces of elephant ivory, totalling 1,094.34 kg from the central ivory stockpile in Maputo. This had been detected on 27 February 2012. Successful law enforcement action depends on accurate and timely information and intelligence. It is therefore vital that all thefts from stockpiles be reported to national law enforcement authorities as soon as possible. In cases where the stolen ivory can be uniquely identified, significant incidents should also be reported to the CITES Secretariat and international organizations, such as ICPO-INTERPOL and the World Customs Organization. This will improve intelligence sharing at the international level.

CITES Alerts

Since SC61, the Secretariat has issued three Alerts related to the illegal trade in ivory (Alert No. 40 on *Combating illicit trade in ivory*; Alert No. 43 on *Elephant poaching in Cameroon*; and Alert No. 44 on *Theft of elephant ivory in Maputo*).

Discussion and conclusions

Illegal killing of elephants for the illegal international trade in ivory is currently a very serious threat to elephant populations in many range States and may be leading to dramatic declines in some populations, particularly in central Africa. Data from the CITES MIKE programme indicate a continuing increase in levels of illegal killing of African elephants since 2006, with 2011 displaying the highest levels since MIKE records began. Similarly, data from the ETIS show a steady increase in levels of illicit ivory trade from 2004 onwards, with a major upsurge in 2009, and 2011 emerging as the worst year ever for large ivory seizures.

The factors associated with spatial and temporal patterns of elephant poaching are broadly similar to those identified in previous MIKE analyses conducted in 2010 and 2011, namely poverty, law enforcement, governance and demand for illegal ivory. The first three of these reflect background levels of poaching, while increasing demand accounts for much of the temporal trend. Whilst the empirical relationships demonstrated by the MIKE analyses are not necessarily directly causal, they do provide a good basis from which to investigate causation. At the very least, the factors identified in the MIKE analysis, along with others identified by ETIS, such as the prevalence of unregulated domestic ivory markets and the increasing involvement of organized crime, are likely to facilitate or to provide incentives for the illegal killing of elephants and the illegal trade in ivory.

The MIKE analysis found no evidence to suggest that the 2008 legal sales of ivory had any discernible impact on the increasing trend in levels of illegal killing of elephants, which had started in 2006. However, the data also suggest that the sale did not have the effect of reducing levels of elephant poaching or levels of illegal trade.

As demonstrated in this report, more large-scale ivory seizures are currently being directed to Asian destinations through Indian Ocean seaports in Kenya and the United Republic of Tanzania than any other trade route from Africa. The Southeast Asian countries of Malaysia, the Philippines and Viet Nam, together with Hong Kong SAR, serve as the principal transit gateways for re-export onto China and Thailand. Further, new trade routes through Cambodia and the Lao People's Democratic Republic appear to be developing. These countries need to strengthen their abilities and strategies for detecting illegal consignments of ivory, and to conduct joint investigations linking all players along the trade chain. They should also be a focus for support from relevant international enforcement agencies and the donor community.

The data illustrate that China remains the paramount destination for an escalating number of large consignments of illegal ivory leaving Africa. Because China allows internal ivory trade under a control system that was previously vetted through a CITES process, the ongoing flow of large volumes of illegal ivory to China suggests that such ivory may be moving into legal ivory trade channels. At the same time, failure to implement key regulatory features in China's legal control system, such as the visible display of product identification certificates with legal ivory products at the retail level, has been noted in recent published reports (Martin and Vigne, 2011; EIA, 2011). Such transgressions seem to have seriously compromised the integrity of the system and need to be addressed. It is also not clear whether China is regularly analysing the information in their ivory database system to assess levels of production and trade of the manufacturing and retail sectors to prevent the possibility of laundering of ivory from illegal sources into the legal system. As these issues are of broad concern, there is a need for China to formally reassess its internal ivory trade system to ensure that it is preventing the laundering of elephant ivory from illegal sources. Although China may be submitting a report for the present meeting on its internal ivory trade system, there is a clear need for continued monitoring of the situation. China should be encouraged to provide regular informative reports on this issue at each meeting of the CITES Standing Committee.

The Democratic Republic of the Congo, Nigeria and Thailand have been identified in successive ETIS analyses as the three most problematic countries with regard to the illegal trade in ivory. Thailand, in particular, remains an unregulated source of ivory products that are seized all over the world, as legal loopholes in national legislation apparently preclude effective law enforcement in the retail market. Whilst a decision was taken for Thailand to report at the present meeting on its domestic ivory trade policy, there is no such obligation on the Democratic Republic of the Congo or Nigeria to do so. Countries in which domestic trade in ivory is demonstrated to constitute a major impediment for realizing the conservation objectives of CITES for elephants should be subjected to an oversight process under the direction of the CITES Standing Committee to ensure that steady progress is made to address problematic issues, and that these countries cease to be significant

drivers of illegal trade. As these problems have been documented since at least 2002, the Standing Committee should consider imposing sanctions where progress is not made, as provided for in Annex 2 of Decision 13.26.

The close correspondence between the adjusted PIKE trend and large-scale ivory seizures shows that MIKE and ETIS are independently detecting very similar patterns at different points in the illegal ivory supply chain. This should give some confidence as to the reliability of results being produced by the two monitoring systems. However, the information and analyses provided to the Parties by these monitoring systems can only be as good as the quality of the data that go into them. Elephant range States must be encouraged to demonstrate their commitment to elephant conservation by providing timely, accurate data to the four monitoring systems recognized by CITES (MIKE, ETIS, UNEP-WCMC and the IUCN systems for monitoring the status of elephant populations).

Thorough and up-to-date knowledge of the status of elephant populations throughout their range remains central to a good understanding of the ivory trade chain and its impact on elephant populations in the wild. Such knowledge is also central to effective wildlife management and conservation at the site and country levels. It is therefore important that elephant range States, assisted by international donors and appropriate partners where necessary, conduct regular, reliable surveys of all their major elephant populations. It is essential that such surveys employ standardized and reliable methodologies such as those recommended in the MIKE survey standards. This is particularly applicable to Asia (especially south Asia), west and central Africa, where more widespread use of reliable monitoring methods is needed as a matter of some urgency. It is encouraging to note, however, that good progress has been made by several range States in Southeast Asia, which have conducted surveys in MIKE sites to MIKE standards and have now begun to assess population trends in their MIKE sites using repeated surveys (again to MIKE standards).

There remains ample room for improvement in the quantity and quality of elephant mortality data supplied to the MIKE programme, particularly by elephant range States in west Africa and the two Asian subregions. There are doubts about the accuracy of some of the data supplied by range States in these subregions, and their reporting rates are generally very poor. Although elephant populations in these subregions are comparatively small, their contribution in terms of data is crucial to informed decision-making by the CITES Parties. Indeed, there are growing concerns among members of the AsESG and NGO community that the illegal killing of Asian elephants for their ivory may be a larger problem than previously assumed. It is therefore imperative that Asian range States report elephant mortality data (PIKE data) in a reliable and timely manner. Similarly, all range States should be encouraged to provide adequate law enforcement coverage to protect and monitor their elephant populations, and to submit regularly both elephant mortality and patrol effort data to the MIKE programme, following its standard formats and protocols.

Although reporting of elephant product seizures to ETIS steadily improves, many Parties, including 12 elephant range States, are still failing to meet their obligations under the Convention. All CITES Parties are urged to report elephant product seizures to ETIS in a timely manner, as called for in Resolution Conf. 10.10 (Rev. CoP15), so that such information may become an integral part of the ETIS analysis for CoP16.

The size of ivory stockpiles in the custody of CITES Parties and their relative contribution to the illegal ivory supply chain remains an important gap in the current understanding of the dynamics of the chain. This gap could be substantially narrowed through mandatory, annual inventorying and declaration to the CITES Secretariat of all ivory stockpiles. It would be highly desirable for these requirements to be included in a revised version of Resolution Conf. 10.10 (Rev. CoP15).

Better information on the age and origin of ivory in stockpiles and in large-scale ivory seizures would also be essential to determine the extent to which ivory in illegal trade is derived from the illegal killing of elephants and the extent to which it leaks from official stockpiles. While DNA and isotope-based forensic techniques could become crucial in this regard, such techniques need to be subjected to a thorough, independent and objective assessment to establish their reliability and validity. Pending this validation, the Parties may also wish to consider the inclusion in the revision of Resolution Conf. 10.10 (CoP15) of mandatory sample collection from large-scale ivory seizures for forensic analysis by accredited forensic laboratories.

The impact of large-scale ivory seizures in the illegal trade in ivory is of such importance as to necessitate the establishment of formal procedural and best practice guidelines for follow-up investigation and investigative collaboration between source, transit and consumer countries along the trade chain. The involvement of ICCWC in this regard could be instrumental in helping to ensure that seizures are followed by effective investigations and lead to successful arrests and prosecutions.

The apparent increase in the illegal international trade in live Asian elephants is a cause for concern. More data on such trade, especially that from Myanmar into China and Thailand and from India into Nepal, are needed to

assess the extent of the trade. In addition, given the large number of domestic working elephants in several of the Asian range States, which provide potential cover for illicit trade in elephants and elephant parts, including ivory, it would be highly desirable if an international registration system – implemented by the range States but standardized across Asia – were created and kept up to date, as recommended at the IUCN-coordinated Asian Elephant Range States Meeting in 2006.

The global systems that monitor the status of elephants, the illegal killing of elephants and the legal and illegal trade in ivory have made considerable progress in enhancing current understanding of the illegal trade in elephant ivory from a supply chain perspective. The CITES-mandated ETIS and MIKE systems continue to work together closely and in collaboration with the IUCN/SSC African and Asian Elephant Specialist Groups, which provide critical data on the status of elephant populations. Collectively, these systems deliver consistent, integrated and evidence-based information; further, they also help build capacity for monitoring in many range States. Since it is clear that the Parties find the reports from these monitoring systems valuable, it is essential that sustainable, long-term funding mechanisms be put in place to ensure their continued ability to provide critical information and analyses to the CITES Parties for their decision-making processes for elephant conservation. The future of these systems is now uncertain, as the current funding of the MIKE programme, which also provides partial funding for ETIS and the African and Asian Elephant Database, comes to an end in December 2012. Unless significant long-term funding can be secured in the near future, the vital monitoring of elephant populations, the illegal killing of elephants and the illicit trade in ivory will falter just as the ivory poaching crisis is reaching new heights.

The problems of elephant poaching and the illegal trade in ivory are multi-faceted and their mitigation will require action on multiple fronts and at different time scales. Such actions might include:

1. Improving the welfare of communities that share their living space with elephants and ensuring they derive net benefits from that coexistence;
2. Improving the effectiveness of conservation area management, including through appropriate law enforcement action, monitoring and training;
3. Ensuring the effective regulation of domestic ivory markets and maintaining effective controls in regulated markets; and
4. Reducing demand for illegal ivory through targeted consumer education programmes in destination markets.

These actions, most of which are included in the *African Elephant Action Plan* and the forthcoming *Asian Elephant Conservation Strategy*, are now urgently required across the ivory supply chain.

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