

IVORY apocalypse

The African elephant is an instantly recognisable symbol of the natural wonders of our continent. The most mega of the earth's terrestrial mega-fauna, these behemoths have stirred the imaginations, emotions – and adrenal glands – of humans for centuries. But our relationship with them is – and has been since before the time of the Romans – tainted by our obsession with their teeth. In pursuing the magnificent tusks that we carve and admire (and occasionally use), humans have slaughtered elephants in their millions.

After a brief respite following the carnage of the 1970s and '80s, which halved the population, elephants are once again in the crosshairs. In an attempt to get to grips with the scale of the crisis, science editor **Tim Jackson** interviewed scientists, researchers, NGOs and policymakers across the conservation and trade spectrum, and filed this special report. ▶

TEXT BY TIM JACKSON

AN APPETITE FOR DESTRUCTION

For more than 10 000 years, humans have coveted ivory – and elephants have paid the price. As far back as AD 77, the Romans had wiped out North Africa's elephant population. By AD 1000, Islamic states had taken control of the East African ivory trade, while ivory from West Africa (the 'Ivory Coast' was aptly named) made its way across the Sahara Desert to the Mediterranean by caravan. During the 19th century another major peak in demand occurred with the industrialisation of Europe and the US, and again in the 1970s when demand from Asia took its toll, particularly on the herds of East Africa.

1970

Demand for ivory escalates, particularly through Central and East Africa, and poaching becomes rampant.

1976

Total exports of raw ivory from Africa are thought to be 991 tonnes, accounting for the deaths of an estimated 55 000 elephants a year.

1976-1980

Hong Kong and Japan import 83 per cent of Africa's raw ivory.

1978

In the US the African elephant is listed as Threatened under the Endangered Species Act.

1979

Iain Douglas-Hamilton (Save the Elephants) estimates a minimum African elephant population of 1.3 million.

1980

Some 680 tonnes of ivory – representing approximately 37 500 elephants a year – is exported from Africa.

1989

- In the decade prior to 1989, East Africa loses almost 400 000 elephants; just 155 000 remain. The continental estimate has more than halved to about 600 000. The elephant population in Tanzania's Selous Game Reserve declines from 109 000 in 1977 to 30 000. Uganda fares badly too, with numbers falling from 17 600 to just 1 600 during the same period. In Kenya, the population plummets by more than 80 per cent between 1973 and 1989, from 120 000 to 15 000.

- At a meeting in Switzerland, CITES bans all international trade in ivory from African elephants. The ban is not supported by countries that have effective elephant conservation programmes in place; they argue that a total ban on selling ivory will hamper their capacity to fund conservation.



1989

The Kenyan government burns 12 tonnes (2 000 tusks) of its ivory stockpile as a public statement against the trade.

1990

The international ban on ivory trade is partly successful as elephant populations in several, but not all, range states begin to recover. In some countries, such as the Democratic Republic of Congo (DRC), the rate of poaching is thought to have slowed to about 20 per cent of pre-ban numbers for the period to 2007. The Republic of Congo, Angola, Central African Republic (CAR) and Zambia continue to lose a significant number of elephants, with civil war and corruption playing a key role.

1992

The Zambian government burns nine tonnes of ivory.



Following the ivory trade ban, East Africa's beleaguered elephant populations start to recover.

1997

Across much of Africa elephant numbers are increasing, paving the way for a partial lift of the ivory trade ban. CITES, through its Conference of the Parties (CoP), allows Botswana, Namibia and Zimbabwe to downlist elephants from Appendix I (which prohibits international trade) to Appendix II (which permits regulated international trade under special conditions) and to sell 50 tonnes of raw ivory to Japanese traders. The sale is opposed by many African countries, on the grounds that it will provide a loophole for poached ivory to enter the international market.

1999

Japan purchases 49.57 tonnes of ivory from the stockpiles of Botswana, Namibia and Zimbabwe as agreed at CoP.

2000

The South African elephant population is downlisted from Appendix I of CITES to Appendix II.

2002

- CITES gives conditional approval for Botswana, Namibia and South Africa to sell 60 tonnes of stockpiled ivory pending future review. The conditions include the establishment of an adequate system to monitor poaching, and that Japan (the only designated buyer) provide assurances that it will control the use of the ivory and prevent its re-export.

- A massive shipment of 6.5 tonnes of poached ivory (300 tusks) leaves Malawi, but is seized by Singapore customs. DNA forensics show the ivory originated in Zambia.

2004

Under pressure from CITES, China recognises the need to regulate its domestic ivory market. The country implements an ivory product registration and certification system, measures it believes will secure its ability to buy ivory at CITES-approved sales in future.

2006

- A shipment of 3.9 tonnes of ivory is seized in Hong Kong. The shipment comes from Cameroon, but genetic testing suggests that the tusks originated in Gabon.
- According to data from the CITES-backed Elephant Trade Information System (ETIS), there is a marked upswing in seizures of illegal ivory shipments worldwide. The trend is also noted by the Monitoring the Illegal Killing of Elephants (MIKE) programme, which starts recording a steady increase in the levels of elephant poaching across Africa.

2007

CITES approves the auction of 108 tonnes of ivory to Japan and China from Botswana, Namibia, South Africa and Zimbabwe, but institutes a nine-year moratorium on any future ivory sales. Again, many African elephant range states oppose the sale; China, which had anticipated a regular supply of legal ivory, feels betrayed.

2009

- As per the 2007 CITES decision, China imports 62 tonnes of ivory.
- Customs officials around the world confiscate more than 16 tonnes of elephant ivory. In fact, 2009–2011 are three of the top four years for the largest quantities of ivory seized since the 1989 trade ban.

2010

- CITES upholds the nine-year moratorium on legal ivory sales and does not approve proposals by Tanzania and Zambia to downlist their elephants to allow them to sell ivory stocks. Some observers believe that depriving China of access to legal ivory until 2018 stimulates a surge in poaching.

2011

- More than 24 tonnes of ivory are seized, representing some 2 500 elephants. It is the worst year on record for large-scale ivory seizures since 1989.

- Demand in China for ivory continues to increase: an auction newsletter reports 11 100 ivory pieces auctioned in the country for US\$95-million, an increase of 107 per cent over the previous year.



An IFAW employee stands amid ivory confiscated in Singapore.

2012

- In February the massacre of several hundred elephants in Cameroon's Bouba N'Djida National Park (below) causes an international outcry, alerting many to the poaching crisis across Africa.



- In May, the US Senate Foreign Affairs Committee's Congressional hears evidence on 'Ivory and Insecurity: The global implications of poaching in Africa'. Testimony is provided by John Scanlon (CITES), Iain Douglas-Hamilton (Save the Elephants) and Tom Cardamone (Global Financial Integrity).
- That same month, officials in Colombo, Sri Lanka, confiscate 1.5 tonnes of smuggled elephant ivory – 350 tusks – the biggest ivory seizure in the country's history. Later the government is heavily criticised for plans to donate the tusks to a Buddhist temple, a move that flouts CITES regulations. The use of ivory in religious ornamentation, particularly by Catholics and Buddhists, comes under the spotlight as it is said to exacerbate poaching.
- Between May and July, thieves steal ivory from government stockpiles in Botswana, Zambia and Mozambique, flagging concerns for the security of official stores.
- In June, Gabon's government burns 4.5 tonnes of ivory in an effort to clamp down on the rise in elephant poaching in the country.
- The following month, Kenya's government publically burns an elephant ivory stockpile that was seized in Singapore in 2002 by the Lusaka Agreement Task Force. Authorities estimate that about 300 elephants were killed to produce the shipment, which is estimated to be worth US\$16-million.
- In October, Hong Kong customs confiscate 1.9 tonnes of ivory shipped from Tanzania and Kenya, the city's biggest-ever ivory seizure.
- Spearheaded by Secretary of State Hillary Clinton, in November the US State Department launches a major foreign policy initiative, Wildlife Trafficking and Conservation: A Call to Action, in which it pledges to pursue a global strategy to protect wildlife.

- The same month, Cameroon responds to the massacre at Bouba N'Djida by deploying 600 soldiers from its elite Rapid Intervention Battalion to stop elephant poachers from Chad and Sudan entering the country. Throughout Africa, more and more rangers and army personnel are seconded to fight the ivory trade, increasing pressure on state coffers.
- In December, in the wake of its failure to curb poaching, Tanzania withdraws its application to sell 100-plus tonnes of stockpiled ivory to China and Japan. Malaysia seizes 1 500 pieces of tusk – the largest haul in the country's history – that were shipped from Togo before transiting in Spain. The consignment was en route to China.

2013

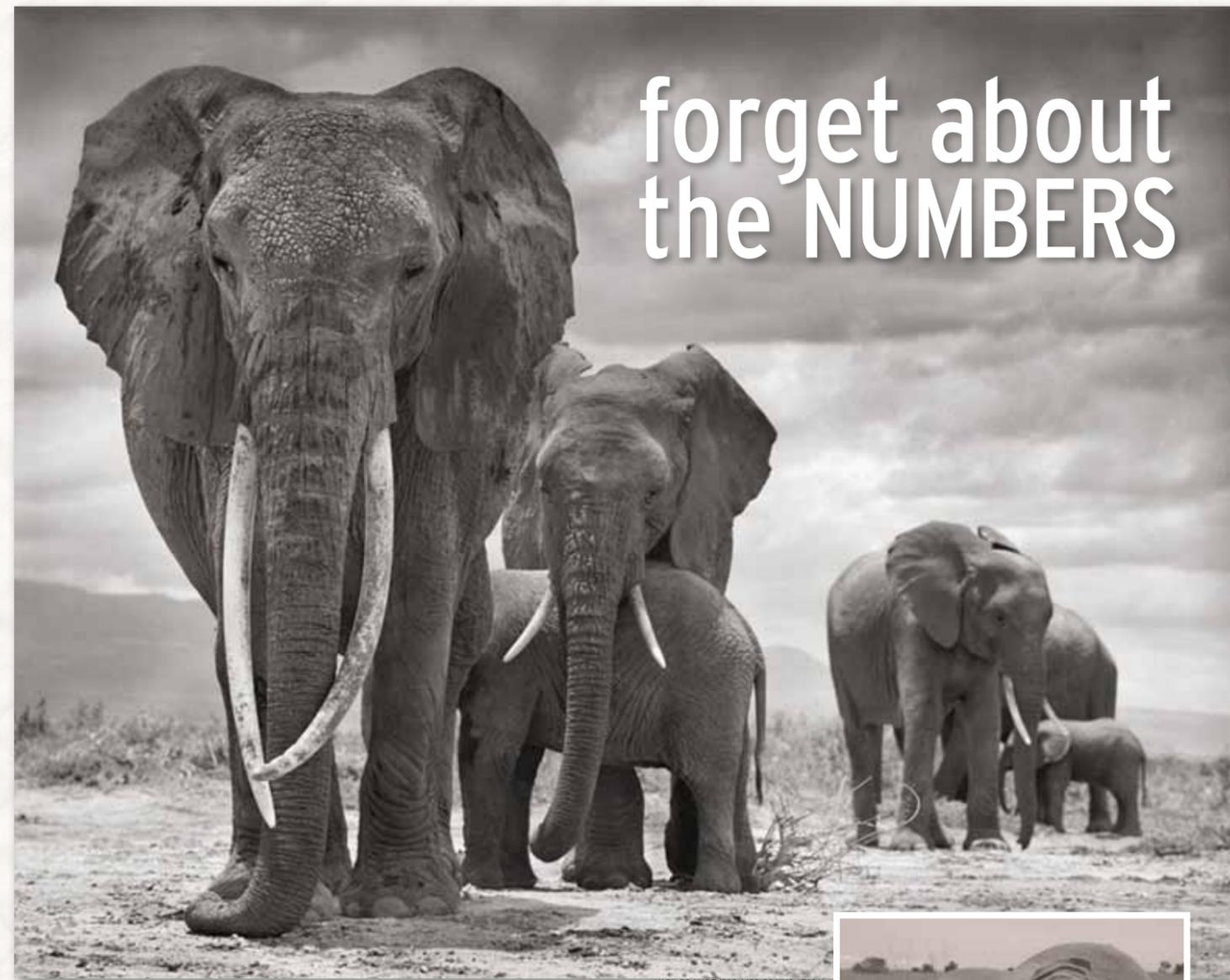
- In February, four Chinese nationals caught smuggling decorative ivory pieces, as well as 9.5 kilograms of raw ivory in Kenya, are each fined US\$340. The light penalty, typical of those in many other African states, outrages conservationists across the world.
- Gabon declares that poachers have killed 11 000 elephants in the Minkébé National Park since 2004, most in the past five years.
- At the CITES CoP in Bangkok in March, Thailand promises to amend its laws to put an end to the ivory trade in the country. Thailand has one of the largest unregulated ivory markets in the world, and is second only to China as an ivory consumer.

- As CoP gets underway, the Public Library of Science publishes the results of the largest-ever survey of forest elephants. It shows that a staggering 62 per cent of the total population has been killed for their ivory in the past decade.



What is CITES?

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between nations, or parties. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Currently, there are 178 parties to the Convention, all of which have committed to help protect more than 30 000 species of plants and animals.



In protected areas in Kenya, researchers have been studying elephant society for many years. The loss of senior individuals – with their impressive ivory – shakes families to the core.

On 27 October 2012, Nick Brandt took this photograph of Qumquat, one of Amboseli National Park's best-loved and most well-known matriarchs, and her family. Twenty-four hours later she and her two daughters were gunned down by poachers. Her five-month old grandson (the young calf in the background) ran away and was never found. Her youngest calf was found alongside the carcasses of her mother and sisters, where she was rescued and taken to the David Sheldrick Wildlife Trust.

'Elephant social dynamics are complex; the bonds between individuals are deep and are forged over decades,' says Cynthia Moss from the Amboseli Trust for Elephants (ATE), who first encountered Qumquat as a three-year-old calf in 1972. 'Elephant survival is not simply a question of absolute numbers, but of access to the social and ecological knowledge that older elephants hold. When a matriarch is killed, her younger calves often die, and the fabric of a family is torn apart,' she continues. 'Our research in Amboseli has shown that old, experienced matriarchs increase the reproductive success of every female in their family, so that there are shorter inter-birth intervals and each calf has a higher chance of survival. Experienced matriarchs do this by making good choices about where to go, what to eat, how to avoid danger. Removing that knowledge leaves a family vulnerable, apart from the psychological damage of surviving a run-in with poachers.'

Qumquat was 43 when she died. Her survivors are not close maternal relatives and will have to remake their lives around the gap that she has left, with a leader 15 years her junior.

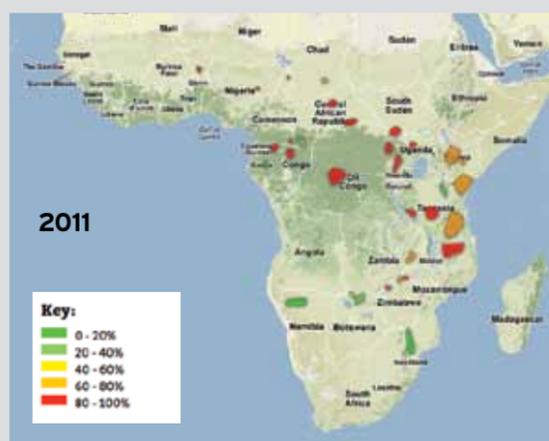
To read more about ATE and Big Life Foundation, visit www.elephanttrust.org and www.biglife.org



TOP Qumquat in her prime with her family.

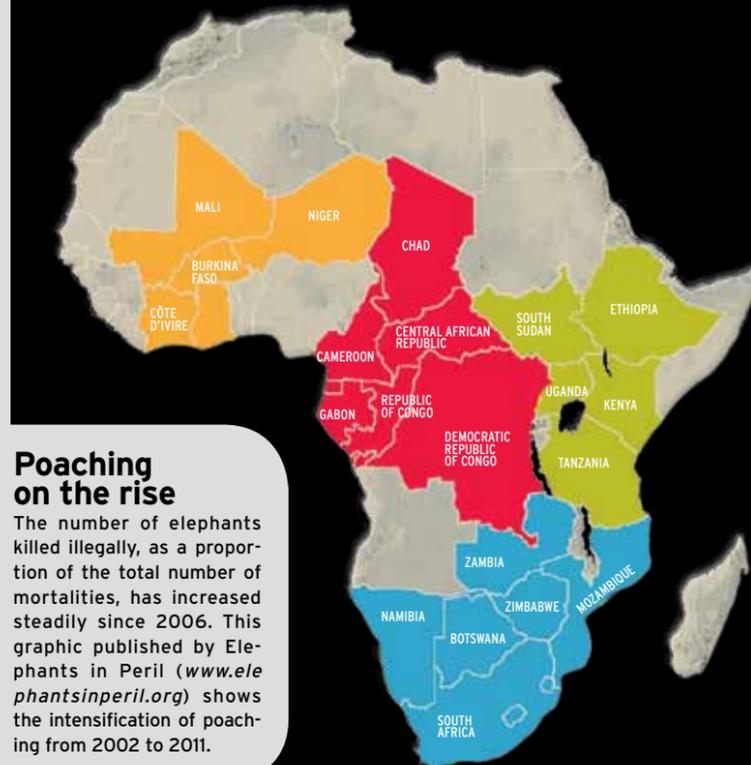
CENTRE AND ABOVE One day later, three more elephants – Qumquat (centre) and her two daughters (one is pictured above) – lie dead in the East African savanna. The poachers got their ivory – but the cost of this tragedy goes far beyond statistics.

the SITUATION



For the decade and a half following the 1989 CITES ban, elephant poaching appeared to abate. But since 2006 there has been a steady acceleration in the widespread killing of the animals. In 2011 TRAFFIC, the IUCN/WWF-backed organisation that monitors the illegal wildlife trade, recorded 13 large-scale seizures, each containing more than 800 kilograms of ivory, that weighed an estimated 23 tonnes – and represented about 2 500 dead elephants. The International Fund for Animal Welfare (IFAW) believes that more than 25 000 African elephants, some five per cent of the entire population, lost their lives to poachers that year.

Recently, the IUCN African Elephant Specialist Group (AfESG) sent a questionnaire on poaching levels to 12 countries. The answers revealed that poaching had indeed risen in the Democratic Republic of Congo (DRC), Central African Republic (CAR), Cameroon, Kenya, Gabon, Mozambique, the Republic of Congo, Tanzania and Zambia. With the possible exception of Namibia's Etosha National Park and the Kruger National Park in South Africa, the illegal ivory trade permeates populations across the continent. Here we highlight the marked differences in poaching rates within Central, East, West and southern Africa, and individual countries.



Poaching on the rise

The number of elephants killed illegally, as a proportion of the total number of mortalities, has increased steadily since 2006. This graphic published by Elephants in Peril (www.elephantsinperil.org) shows the intensification of poaching from 2002 to 2011.

CENTRAL AFRICA

'Most poaching has occurred in Central Africa,' says Tom Milliken from TRAFFIC. 'One credible source says there are only five places left in the entire DRC that have more than 500 elephants. This is a big shock because 15 to 20 years ago people were talking about 100 000 elephants in that country alone.' The region is an obvious target for poachers. The so-called 'hard' ivory of forest elephants is particularly prized in Japan, where it is used in the manufacture of name stamps, or *hanko*, and the *bachi*, a traditional drumstick or plectrum. (Before the trade ban, Japan sourced most of its ivory from the Republic of Congo.)

The dense rainforests that blanket the region provide ideal cover for poaching, which is further facilitated by low levels of law enforcement, political instability and collaboration with armed forces and militia groups. Conditions also make it difficult to assess population status, so keeping track of events is extremely challenging.

Gabon If you were to guess which Central African country is home to the most elephants, chances are you wouldn't say Gabon. The country holds just 13 per cent of Africa's equatorial rainforests, yet now claims over half of the continent's forest elephants, some 40 000–50 000 individuals according to the Agence Nationale des Parcs Nationaux, the Gabonese National Parks Agency. In the past 18 months two massacres have dented these figures. In 2011, 27 elephant carcasses discovered in the open savanna areas of Wonga-Wongue Wildlife Reserve alluded to even worse carnage hidden in the park's forested areas. In February this year, Minkébé National Park and its surrounds – host to the largest population in the country – reported that it has lost more than 11 000 elephants since 2004.

Cameroon Although there have been more catastrophic killings, the death of several hundred elephants in Bouba N'Djida National Park put

the ivory crisis on many people's agendas. 'We don't know the exact population, but think it was mostly wiped out – precise numbers talk about 350–450 elephants killed,' says Ofir Drori of LAGA Wildlife Law Enforcement.

The country is no stranger to the ivory trade. It was singled out in 2002 for having Central Africa's largest domestic ivory market. Today, the main threat to its elephants probably comes from the east, where groups of horsemen from Chad and Sudan have infiltrated its parks. 'My understanding of the estimates suggests there are 2000 savanna elephants left in northern Cameroon, far fewer than its remaining, forest elephant population in the south-east,' says Bas Huijbregts from WWF. 'Apart from that big incident in Bouba N'Djida, these populations have not suffered too much from poaching... In the forests, however, the situation is really, really bad. A study, just published, using the largest dataset on forest elephants ever compiled, shows that across their range in Central Africa, 62 per cent of all forest elephants have been killed for their ivory in the past 10 years.'

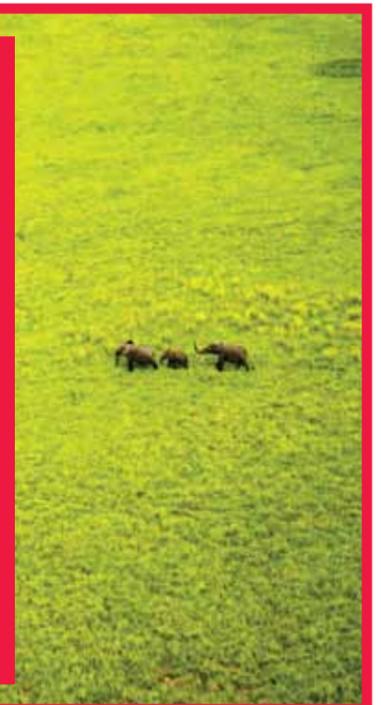
Central African Republic (CAR) Until the turn of this century much of the country's north and east was thought to be elephant range. 'Over the past decades, poachers have wiped out elephants across

large swathes of CAR,' says Huijbregts. 'The elephant population in the north-eastern part of the country, which numbered around 35 000 in the 1970s, has effectively been massacred, with only 100 or so individuals remaining.'

Chad Elephant numbers in Chad were estimated at around 40 000 some 20 years ago; now there are fewer than 2 000. Zakouma National Park hosts the largest remaining population, which has collapsed by 90 per cent since 2005. By 2011 only 450 animals remained. Poaching, however, has slowed dramatically since African Parks took over the park's management in 2010.

Republic of Congo Based on the CITES quota system, Congo was the largest African exporter of ivory between 1986 and 1989. Today most of the country's remaining elephants are found in the Nouabalé-Ndoki and Odzala-Kokoua national parks and their surrounds. And they are taking a beating. The Wildlife Conservation Society (WCS) estimates that about 5 000 elephants – almost half the population – have been killed by poachers around Nouabalé-Ndoki in the past five years. Odzala-Kokoua faces a similar situation. Elephant numbers there are estimated to have fallen from about 13 000 in 2008 to 9 000 today.

Democratic Republic of Congo (DRC) The elephant population of Africa's second-largest country is currently estimated at no more than 10 000 animals. 'Elephant numbers today are reduced and scattered in the remaining elephant landscapes,' says John Hart of the Lukuru Foundation. 'Many of these areas are logistically difficult and remote, while some are occupied by militias and brigands.' In fact, the decline in numbers can be linked with unrest that predates 2006, with the country's volatile eastern region being particularly vulnerable to poaching. 'Trends in Okapi and Garamba [national parks], as well as information from elsewhere, show that the carnage got under way during the civil war [1998–2005], with increasing poaching from 2008 onwards as the country stabilised and the Chinese arrived,' Hart continues. 'Today all major elephant populations have poaching issues, while several parks – Virunga, Okapi, Salonga – have made major investments to safeguard their elephants.' In 2005 African Parks took over the running of Garamba National Park, which harbours the DRC's largest population, at a time when there were widespread incursions by Sudanese poachers.



NURIA ORTEGA/AFRICAN PARKS

EAST AFRICA

South Sudan Ironically, five decades of conflict were kind to South Sudan's elephants. WCS reports that the civil war stifled development and preserved the largest intact savanna in East Africa. Since the 2005 peace deal, however, the ready availability of weapons has enabled increasingly organised armed groups to traffick ivory. 'The elephant population, estimated at 130 000 in 1986, has crashed to 5 000 if South Sudan is "lucky",' says Paul Elkan, WCS director for the country. He warns that if poaching continues at present rates, elephants could disappear from South Sudan within the next five years.

Ethiopia has lost nearly 90 per cent of its elephant population since the 1980s, with the total number estimated at 1 200 in 2007. In the 1990s, elephants were found in 16 areas ranging over 94 000 square kilometres; by 2006, fragmented herds were found in just nine areas over 29 000 square kilometres.

Tanzania holds by far the majority of East Africa's elephants – around 80 per cent – and the second-largest savanna population after Botswana. Most of its

elephants occur in the Ruaha–Rungwa and Selous ecosystems. 'There has been a huge increase in illegal elephant killing in Tanzania over the past few years,' says Howard Frederick, an aerial survey specialist. 'Poaching is bad in the Selous region now, shifting in the past three years from western Tanzania. The government is making a strong anti-poaching push, but the areas are huge.'

Determining how many elephants are being killed and how many remain is a challenge. A 2006 count made by the government through the Tanzanian Wildlife Research Institute (TAWIRI) in the Selous region suggested a population of around 74 000 elephants, though confidence limits (that is, the probable range) were wide; three years later WCS and TAWIRI counted just 43 000 elephants for the same area.

Kenya Despite widespread publicity to the contrary, Kenya has fared relatively well as poaching levels escalate through East Africa. Nonetheless, figures from Kenya Wildlife Service indicate that poaching levels are steadily increasing – the country lost 384 elephants to poachers in 2012, rising from 289 in 2011. Aerial surveys in the northern Samburu–Laikipia

area suggest the population decreased by more than 1 000 in just four years to 2012, although drought accounted for more than half the fatalities.

According to Ian Craig of the Northern Rangelands Trust, 'Elephant poaching is at its highest level numerically in northern Kenya since the late 1980s. It is not yet a crisis, nor at the same level of the 1970s and '80s, but this is purely due to the strong response from the Kenyan government and a greater awareness among Kenyans of the value of wildlife, and hence less of a window of opportunity to allow corruption to cover large-scale poaching.' Commenting on poaching levels across the country, he continues, 'It is a widespread problem impacting all of Kenya's elephants, with hotspots in the Taita–Taveta ranching district and within the Laikipia–Samburu population. Nowhere in Kenya is immune to this threat.' The killing of 12 elephants in Tsavo East National Park in January 2013 was the largest single incident in the country since the 1980s.

Uganda is home to more than 4 000 elephants and the population is considered stable at the moment. 'Poaching of elephants in Uganda has increased over the past three to four years in the main protected areas of Murchison Falls and Queen Elizabeth national parks,' says Charles Tumwesigye of the Uganda Wildlife Authority. 'The recent increase in poaching is highly organised, with big businessmen using locals to kill elephants in return for money once they've delivered the ivory. A number of the people behind this activity have been tracked through intelligence and arrested, and there is a general reduction in elephant killing in Uganda now.' Even so, 2011 was the worst year for the country's elephants in recent years, with 2012 also showing high levels of illegal killing.



ISTOCK/DAN KITE

WEST AFRICA

A minimum of 6 500 elephants currently inhabit the entire savanna region of West Africa. Most populations are scattered and isolated, with many numbering fewer than 200 animals, suggesting they will go extinct within the next few decades. Arguably the best known are the 350 or so desert elephants of northern Mali, which are now threatened by escalating conflict. Some 90 per cent of the populations form part of a western pool concentrated in Burkina Faso, but including populations from Benin, Côte d'Ivoire, Ghana, Mali and Niger. Poaching levels remain among the highest in Africa. Several countries no longer have elephants – Sierra Leone, for instance, saw its final elephants killed in 2009 – and many now have more ivory than the animals that produce it.

SOUTHERN AFRICA

Namibia is home to some 20 000 elephants and remains one of the few countries where poaching is currently not considered a major threat. In Etosha National Park, Pierre du Preez of the Ministry of Environment and Tourism comments, 'We conduct intensive surveys using a helicopter and land at every carcass, where we sample and collect ivory – so far we have not found any mortalities due to poaching.' The Caprivi Strip in the north-east, where the majority of the country's elephants are found, is a much higher risk area. Here the number of elephants poached increased from fewer than 10 in 2011 to 78 in 2012.

Botswana 'Our 2010 survey estimated that there are between 120 000 and 140 000 elephants in Botswana,' says Mike Chase from Elephants Without Borders. 'The Chobe District has the most elephants, estimated to be about 40 000. The population grew significantly until about 2005, but subsequent surveys have yielded similar numbers. Most poaching occurs in the Chobe District, along the Chobe and Linyanti rivers, as well as around the border with Namibia and Zimbabwe, though there is no great threat at present,' he adds. 'There is a strong commitment from the government to prevent poaching, and extensive deployment of the Botswana Defence Force to



GRANT ATKINSON

conduct anti-poaching patrols, roadblocks and spot checks at unannounced locations across the country.'

South Africa To date, South Africa has avoided elephant poaching more successfully than any other range state, a statement corroborated in March by Minister of Water and Environmental Affairs Edna Molewa, who stated: 'No elephants have been poached since the once-off sale [of ivory in 2008].' In fact, until it was stopped in 1996, the major human activity affecting elephants in the Kruger National Park was culling. Since then the elephant population in the park and surrounding management areas, the largest in the country by some margin, has increased from around 8 000 to 16 500 in 2012, and continues to grow. Even so, South Africa serves as a transit centre for ivory leaving the continent.

Zambia The Luangwa and Zambezi valleys and the Kafue area are home to Zambia's major elephant populations. 'The population in Kafue is presently considered stable,' says Jeremy Pope from The Nature Conservancy's Zambia programme. Lower Zambezi National Park, with roughly 2 000 elephants, shows a slight upward trend. According to Ian Stevenson of Conservation Lower Zambezi, 'Since the mid-1990s, with increased protection, elephant populations have continued to grow.'

Further north, the Luangwa valley hosts the country's largest population of elephants, with an estimated 18 500 in 2008. Speaking for North Luangwa, one of two national parks that protect the area, Ed Sayer of the Frankfurt Zoological Society (FZS) says, 'The elephant population has been increasing since 1989, coinciding with a law enforcement presence. Even so,

since 2007 there has been an increase in poaching, primarily in areas bordering the park.' The FZS maintains that overall the Luangwa valley elephant population is dropping, although current data suggest that North Luangwa is stable.

Zimbabwe 'The last complete aerial survey of elephant range was carried out in 2001, when the population reached about 90 000, so there is little in the way of recent reliable information on current poaching trends in Zimbabwe,' says David Cumming from the University of Cape Town. He reports that there have been more recent region-specific surveys, for instance for the middle Zambezi valley and Gonarezhou National Park, but that none has produced any alarming carcass ratios (the number of elephant carcasses as a proportion of the total population).

Mozambique 'Northern Mozambique holds the highest concentration of elephants in the country – some 13 000 according to the latest survey. Greater Limpopo, Gorongosa and Chimanimani national parks follow in numbers,' says Roberto Zolho of WWF. 'The most recent survey from the north suggests more than 2 500 elephants have been killed there since 2009, when poaching started to take off, but we think this might be an underestimate.' The level of criminal activity certainly suggests the population is in decline. 'Poaching is highly organised – helicopters out of Pemba airport are reported to be used – and involves both local and foreign poachers, though no actions have been taken against them.' Zolho cites lack of capacity by law enforcement bodies, corruption and a weak judiciary system as contributing factors.

full-scale ASSAULT

From corrupt militias to poverty-stricken people eking a living at the edges of protected areas, the ivory trade entices many different people for lots of different reasons.

BLOOD IVORY

White gold or blood ivory? Ivory means different things in different hands but, in wildlife trafficking circles at least, an elephant is a commodity. And how and why it is harvested can take widely divergent paths.

Today organised crime takes a front seat in the illegal killing of elephants, as it does for rhinos. Among the most notorious poachers on the continent are armed militias who supposedly kill elephants to fuel their own conflicts. To them, ivory is a means towards a more bloody and brutal end that serves to destabilise some of Africa's most fragile regions and provide the catalyst for even greater conflict. This is blood ivory.

Arguably the most notorious group thought to be caught up in this trade is the Lord's Resistance Army (LRA), which originated in northern Uganda. Members of the United Nations Security Council are so concerned about the destabilising effect that LRA leader Joseph Kony and his cronies are having in the region that they called for an investigation into the alleged involvement of the group in elephant poaching in December 2012. Operating throughout South Sudan, Uganda, the Democratic Republic of Congo (DRC), Central African Republic (CAR), Sudan and Chad, the LRA has reputedly decimated elephant populations in these areas. It may be described primarily as a militia – Kony is wanted by the International Criminal Court at the Hague for war crimes and crimes against humanity – but ivory poaching is definitely part of the LRA's modus operandi.



DAVID SANTIAGO GARCIA/AFRICAN PARKS



NURIA ORTEGA/AFRICAN PARKS

'About every six weeks we rescue someone who has escaped from the LRA, so we have a very regular insight into what [it is] doing in Garamba [National Park, DRC]. We know from interviewing the escapees that there is an expectation to source ivory and to send it to Kony,' says Peter Fearnhead, CEO of African Parks, which manages Garamba. 'In April 2012 we sent in a patrol to keep an eye on a big herd of elephants and ended up having a gun battle with the LRA – our scouts fired more than 1 000 rounds of ammunition in one exchange,' he says.

'Recently they have become much better equipped,' he continues. 'Two years ago they would have been a small, poorly resourced group, but in this incident there were more than 60 armed individuals. They had lots of ammunition and lots of guns.' The size of the group African Parks took on is not typical for a poaching party. 'The LRA and those 60 men were part of a group of about 110 people, including women and children, who were basically camped in the middle of Garamba – that was their base,' confirms Fearnhead.

About every six weeks we rescue someone who has escaped from the LRA, so we have a very regular insight into what [it is] doing in Garamba

The connection between the LRA, ivory and arms remains speculative though. 'The evidence that the LRA is killing elephants in Garamba is very, very strong – we have no doubt about that. We have some credible reports that the LRA might be involved in the illegal trade in ivory, but there's no confirmation yet that it is doing so,' says Paul Ronan from The Resolve, an advocacy group looking to end the militia's reign of terror. 'They could be using ivory to bribe local officials – as protection money – or to procure weapons or basic food and medical supplies to keep the groups alive. Bartering it, basically.' In January 2013 The Resolve uncovered some of the LRA's illicit ivory dealings. 'Several abductees who escaped in CAR reported that a helicopter periodically rendezvoused with an LRA group there and gave the rebels food in exchange for ivory,' says Ronan.

Kony's army is not the only militia thought to be linked to blood ivory. In



YVES STRANGER/AFRICAN PARKS

the Horn of Africa, the al-Qaeda-linked al-Shabaab terrorist organisation may well be involved too. The outfit controls large swathes of the southern parts of Somalia and several reports in the Kenyan press have suggested that it is connected with the ivory trade, although details remain sketchy. 'There have been several allegations claiming that known militant organisations are engaged in elephant poaching and ivory trade. INTERPOL takes these very seriously and is looking into them,' says Bill Clark of INTERPOL. He confirms that the Kenya Wildlife Service has claimed that al-Shabaab is involved in the ivory business.

HORSEMEN OF THE APOCALYPSE

Groups of armed horsemen from Sudan rank among some of Africa's most notorious elephant poachers. Operating during the dry season, they travel more than 1 000 kilometres westwards in large raiding parties, reputedly with trains of camels in tow to transport ivory back. Last year they carried out the well-publicised massacre in Bouba N'Djida National Park in north-eastern Cameroon. They are responsible for the deaths of a massive number of elephants, decimating populations in countries such as Chad and CAR.

'The method of poaching elephants here in Chad is unlike anything we have come across before,' says Lorna Labuschagne, who works there for African Parks. 'They

use horses and heavy-calibre rifles and herd the animals towards marksmen. They open fire indiscriminately, killing a lot of animals outright and wounding many more – we talk of massacre sites here and that is exactly what they are,' she continues. 'We found 19 carcasses at one site and seven at another, and a baby elephant was also killed here. In other words a pretty devastating means of killing. They used the same techniques in Cameroon.'

The organisation gained further insight into their methods when they raided a camp near Zakouma National Park last year. 'We confiscated 1 000 rounds of .762 ammunition. That's not for a short hunting trip. When you've got 1 000 rounds of ammunition, you're going to harvest,' says Fearnhead. The poachers were well-equipped – other items in their possession included a satellite phone, cellphones and solar chargers. 'Over a period of six weeks to two months they gathered an enormous amount of ivory – basically shot ▶

ABOVE Armed with weapons and a radio, anti-poaching rangers patrol Zakouma National Park in Chad on horseback – in anticipation of encountering marauding horsemen from Sudan.

OPPOSITE, ABOVE A ranger holds the tusk of an elephant poached in the DRC's Garamba National Park, a reserve hard hit by militias in search of blood ivory.

OPPOSITE, BELOW Bushmeat, ivory and skins ... the spoils of a raid on a poachers' camp in Garamba.



JOHN SIDLE/AFRICAN PARKS



Unless the tusks are very large - bigger than 20 kilograms each - the meat from the elephant is worth more than its ivory, but its sheer mass makes realising this value logistically difficult

everything that was possible - stockpiled it and then paid local couriers with horses and camels to transport it out.'

The equipment retrieved contained further clues as to the horsemen's activities. 'We have photographs from their cell-phones that show elephant massacres somewhere else,' continues Fearnhead. 'We know they're not from the Zakouma area. The dates on the pictures are late January 2012, which coincides more or less with the incidents in Bouba N'Djida. We can't be certain [yet], but we think we are getting information from this incident on the Bouba N'Djida massacres. These are Chad nationals working with corrupt officials in the Sudanese army and police.'

AERIAL ASSAULT

African Parks has run the full gamut of poachers. Another notorious attack on elephants was conducted by helicopter last year in Garamba. The attack highlighted the involvement of the military, as

well as the level of technology used in some poaching incidents. Twenty-two elephants died. 'They were shot by professional marksmen, mostly with a single shot to the top of the head,' says the organisation's Jane Edge.

Although no helicopter was seen on the day, one registered to the Ugandan Air Force was photographed flying very low over Garamba on two subsequent occasions. 'According to Ugandan Air Force flight records, the helicopter flew out of South Sudan's Nzara Base, which is run by the Ugandan military, on the day of the elephant killings,' confirms Edge. 'The Ugandan authorities have declined to explain what they were doing in the park.'

Reports of helicopters and similar levels of sophistication have come from northern Mozambique and Kenya, and fingers have also been pointed at criminal elements within the military of the DRC and South Sudan. Late in 2012, the head of the DRC's army was sacked. 'The reasons

cited in the official press coverage pointed to his selling arms to militia groups and his involvement in elephant poaching - so there are no secrets about who is involved in the demise of the DRC's elephants,' says John Hart of the Lukuru Foundation.

FOLLOW THE MONEY

Military expediency, however, is not the only motivating factor for poachers. Considering the sheer amount of money involved, it should come as no surprise that people from all walks of life are caught up in the ivory trade. Daniel Stiles' IUCN report 'Elephant Meat Trade in Central Africa' found that, despite concerns over elephants dying for bushmeat, the primary motivation for poaching, representing more than 90 per cent of his respondents, was ivory. 'They hunted for profit, not food,' he says. 'Well over half of the elephant hunters said they were paid by others to kill elephants. These *commanditaires* [who order and subsidise

elephant hunts] are influential government or military officers, businessmen or even clerics,' he writes in the report. 'The *commanditaires* order the hunt and provide money, food and other goods to the lead hunter, who organises the hunting party. The *commanditaire* also often supplies weapons and ammunition. In return, he receives tusks.' Such elephant hunts typically include about seven men and last up to two weeks.

Interestingly, Stiles also calculated that, unless the tusks are very large - bigger than 20 kilograms each - the meat from the elephant is worth more than its ivory, but its sheer mass makes realising this value logistically difficult. The tusks are much easier money.

At the bottom of the money chain lie poor, rural people, many of whom live on the borders of national parks and nature reserves. For them, the financial rewards of poaching are tangible and tantalising. 'In the Selous [Game Reserve, Tanzania], poachers are well known in the communities; they return home awash with cash after delivering their poached ivory to middlemen. This cash gives them immediate status and they become the role models for young people, who see only the immediate

The poaching today is done by the local communities surrounding the park, but most of these people are not the culprits but rather the victims

benefit of an illegal activity - and criminals who operate above the law,' says Mary Rice, executive director of the Environmental Investigation Agency (EIA).

Given the rewards poaching can bring, the temptation is often overwhelming and the penalties for getting caught are little deterrent at all. 'Investigations carried out by the EIA show a continual flow of ivory out of the Selous. Some poaching groups enter the reserve for periods of up to two weeks and kill as many as 10 elephants each trip,' says Rice in 'Open Season', the EIA's investigation into the illegal trade in Tanzania and Zambia. 'The poached ivory is then hidden, buried at remote locations on the edge of the reserve until it is sold to traders, usually from Dar es Salaam. The transactions take place in villages that have become known hotspots for ivory trading.'

Odzala-Kokoua National Park in the Republic of Congo faces similar problems. 'The poaching today is done by the local communities surrounding the park, but most of these people are not the culprits but rather the victims,' says Leon Lamprecht, who manages the reserve for African Parks. 'Military and police officials are providing firearms and ammunition to local communities to hunt elephants, then they buy back the ivory from these guys at minimal prices.' He continues, 'The main problem we face every day is the corruption of the local authorities - including our own ecoguards - that is allowing the trade to happen. At present the majority of our intelligence indicates mainly West Africans and Chadians as the traders.'

COLLATERAL DAMAGE

Given the weaponry involved, and the ever-increasing stakes, the cost of the ivory trade cannot be counted in terms of elephant deaths alone. Across the continent people are dying to save the species too. 'We've had up to 22 staff killed in a year by the LRA. Garamba is a war zone. The whole area is completely destabilised,' says Peter Fearnhead.

Further south Paul Sadala, an ivory trafficker better known by his alias 'Morgan', led an armed assault against the Okapi Wildlife Reserve in June 2012 that left seven people dead and another 30 taken hostage. The killings were aimed at the Institute in the Congo for Conservation of Nature (ICCN) and the Okapi Conservation Project (OCP), which had dared to target Morgan's elephant poachers and gold-miners operating illegally in the reserve. The weapons used in the attack were funded by ivory.

'This guy doesn't care,' says John Lukas, OCP president. 'He kills elephants every day. Killing animals is his business.' In 2012, a similar tit-for-tat killing in Chad saw six of Zakouma's rangers killed in retribution for the arrest of four poachers, while Kenya Wildlife Service lost six personnel to poachers, including the first female ranger to die in the line of duty.

People are not the only victims. In some areas poisons, such as the insecticide Temic, are used to kill elephants. 'We have seen evidence in Zimbabwe and elsewhere in the region where poison has been used to try to kill elephant groups. Temic has been put in oranges and put in places where elephants are



LORNA LABUSCHAGNE/AFRICAN PARKS

ABOVE Counting the human cost. Brahim Khamis, a ranger based in Zakouma National Park, was killed in a surprise attack during morning prayers. A disturbing number of rangers in Africa have lost their lives in the line of duty.

OPPOSITE, ABOVE Vultures circle five of the 23 elephants thought to have been killed during an aerial attack in Garamba in April 2012. On two occasions after the incident, this Ugandan military helicopter (INSET) was seen flying low over the park, although Ugandan authorities declined to explain its presence there.

OPPOSITE, BELOW In March 2013 Athanase Edou Mebiame, a high-ranking Gabonese official (LEFT), confessed to providing weapons and food to poachers, and transporting ivory across international borders using official vehicles.



ORGANISATION FOR CONSERVATION JUSTICE

out of AFRICA

From the continent's savannas and forests to the markets of Lagos, Kinshasa and Cairo, through the ports of Mombasa, Dar es Salaam and Cape Town and on to Asia, the movement of ivory involves thousands of people, complex organisation, and complicity and corruption at every level.

WHEN IT COMES TO ELEPHANTS, WEST Africa is an enigma. The region has very few of the animals, yet it hosts a booming trade in ivory. This anomaly was first given widespread attention in a 2003 report by TRAFFIC, and Ofir Drori of LAGA Wildlife Law Enforcement is quick to confirm that its findings remain relevant today. 'There are many countries in West Africa with only 20–30 elephants left. Of course they have more ivory than elephants!' he says. 'Guinea has 30 elephants if we are lucky – we seized more ivory than that from a single dealer. Togo has a very tiny population; Sierra Leone has no elephants remaining whatsoever, and neither does Ivory Coast. These are all countries that are active in the trade in a very serious way.'

Last year wildlife trade researchers Esmond Martin and Lucy Vigne surveyed the huge ivory market in Lagos, Nigeria. The sale of ivory has been banned here since 2011, but the laws are simply not enforced. 'This is by far the biggest ivory market in Africa,' says Martin. 'Ivory here comes from all over the place – most is from countries like the Democratic Republic of Congo (DRC), Cameroon and the Republic of Congo in Central Africa, but some from as far afield as Kenya and Tanzania.'

As for who is doing the buying, he says, 'We didn't see any non-Chinese people buying ivory.' Many of them would have been involved in so-called 'ant trafficking' – the movement of small amounts of ivory by a large number of people for personal use or re-sale in Asia. Martin points to statistics showing a

dramatic increase in Chinese nationals in the country, from an estimated 2 000 in 2001 to 100 000 by 2007. 'Ivory is cheap here compared to in China. Much of it is taken out by pocket or in hand baggage.' Similarly, Angola hosts an increasing number of Chinese nationals – some

300 000 are currently working in the country. 'Luanda used to be a big ivory market – we have no recent information – but there's no reason to think it isn't still,' says Martin. Angola has few elephants itself, so it is likely that demand is satisfied by the DRC.



RICCARDO PREVATTONI, GRID-ARENAL, WWW.GRIDA.NO/GRAPHICSLIB/DETAIL/ILLEGAL-IVORY-TRAFFICKING-ROUTES_486E

Lagos may claim the dubious honour of being the largest ivory market in Africa, but there are other notorious hotspots. Martin is convinced that Khartoum is complicit in providing a market for ivory poached up to 1000 kilometres away. 'Khartoum gets raw ivory from South Sudan, Central Africa and Kenya. The city is supplied by Sudanese horsemen returning here from further west,' he says. Like most other domestic ivory markets, sales here are made mostly to Chinese nationals. The Sudanese capital also serves as conduit to Cairo, another major African market, though in recent years the route has been throttled to some extent by an increase in border security.

Cairo, of course, is situated well outside the range of African elephants but, despite a decline since the 1990s, it remains one of the largest ivory markets on the continent. Trading in ivory is banned here too but, again, as Martin and Vigne discovered during their investigation in 2011, the laws are not enforced. Raw tusks are carved, albeit crudely, and sold. Many of its patrons used to hail from Spain, Italy and the US, but Chinese nationals are now the principal buyers, with Egyptians and Gulf Arabs increasing in prominence.

Elsewhere, Ethiopia's Addis Ababa market fluctuates in size and importance (it was thriving when TRAFFIC conducted its last survey in 2008), Maputo in Mozambique hosts southern Africa's largest market and ivory is still being sold openly in the DRC capital of Kinshasa.

Ofir Drori is unequivocal about the role domestic sales play. 'No trade in ivory is domestic – it doesn't exist. I would state this categorically. No ivory is sold that does not leave the country. The prices you have inside a country and the prices you pay outside – there is such a huge gap that it doesn't make sense for any ivory to be left in the country.'

The real role of ivory markets, he contends, is to connect with international dealers. 'It's like an advertisement to get in contact to make bigger deals,' he says. 'Those markets, like Lagos, say, "We're here, we're reliable, here it is. Buy something, build a trust, we can sell you hundreds of kilograms later." Nobody will do business with you for 600 tusks if you haven't bought several times before and shown that you can be trusted. This is a business

where people screw one another over, so trust is a big deal. It's the only thing that limits the ivory trade, otherwise it would just go on until all the elephants have been killed. And the prices would go up and up and up.'

ALTHOUGH DOMESTIC AFRICAN MARKETS PLAY a part in the international trade, most of Africa's ivory is exported in tusk form to Asia. China is the biggest importer, followed by Thailand and, increasingly, Laos. Based on the number of ivory seizures, Kenya and Tanzania are the principal exit points – between them, the two countries account for more than two-thirds of ivory confiscated en route to Asia (although seizure rate might not be a true indicator of shipment volume).

In terms of air freight, Kenya's Jomo Kenyatta International Airport (JKIA) serves as a transit hub for many West, Central and even southern African countries and international markets. For instance, 456 kilograms of ivory (158 tusks) intercepted in Bangkok in

Those markets, like Lagos, say, "We're here, we're reliable. Buy something, build a trust, we can sell you hundreds of kilograms later." - Ofir Drori

2012 had gone there en route from Kinshasa. Other shipments also bound for Thailand came through JKIA via Angola and Ghana. 'Looking at the data, there is increasing evidence of ivory being air freighted. It used to be prohibitively expensive, but we have records of shipments as large as 800 kilograms coming in by air now. That's huge – very, very expensive – but it's happening,' says TRAFFIC's Tom Milliken, who also heads up the Elephant Trade Information System (ETIS).

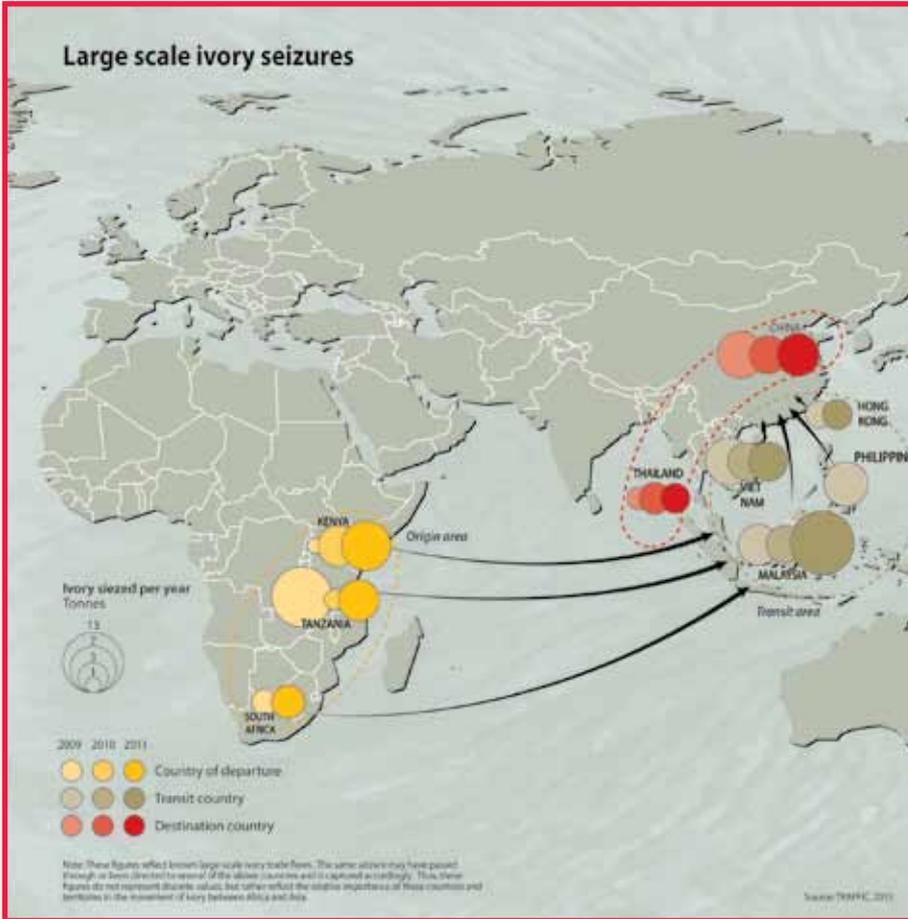
The largest consignments, however, are still transported by sea. INTERPOL and ETIS regard such large-scale shipments (800 kilograms or more) as a proxy measure for assessing the involvement of organised crime. 'The engagement of criminal syndicates in the illicit trade in ivory between Africa and Asia is becoming increasingly entrenched,' says Milliken. Several African countries, Angola,

Senegal, Equatorial Guinea and Togo among them, have not submitted seizure records since 1989, when ETIS was established, but are implicated in hundreds of hauls elsewhere in the world.

If seizures are anything to go by, the dynamics of the large-scale ivory trade are changing. 'For a long time, much of the trade left Africa through the Atlantic Ocean side – Nigeria, Cameroon, Gabon. Now it's all shifted to Mombasa, Dar es Salaam, Mozambique,' says Milliken. 'I think that West Africa is just too far away from accessible elephants now. All of those big populations along the major roads and waterways in Central Africa have gone.' The fact that less ivory is being intercepted in the region seems to bear this out. 'Large consignments of ivory moving out of West and Central Africa have become minimal, collectively constituting only 11 per cent of the total of large-scale ivory seizures in the past few years, a threefold reduction from the period 2000–2008.'

Moreover, the ETIS data suggest that some consignments leaving East Africa include ivory sourced from Central Africa. 'This indicates ongoing cross-border trade from the DRC through Uganda and on to Kenya and Tanzania for export to Asia,' says Milliken. For now it remains unclear whether the fall in large consignments of ivory seized out of West and Central Africa reflects a decline in the elephant populations in the western part of the Congo Basin or a switch in routes to East Africa.

Even South Africa, where elephant poaching seems negligible, is being implicated in the trade. There have only been a handful of seizures in recent years, but trafficking through the country is increasing dramatically. Take Cape Town. 'In 2012 almost three tonnes of ivory were taken into custody in the Western Cape – that is a substantial amount,' says Christina Pretorius from the International Fund for Animal Welfare. Her concern mirrors figures released by Cape Nature, the provincial conservation body. 'From 2002 to date, 39 cases have been registered in the Western Cape involving 6 469 kilograms of ivory,' says Paul Gildenhuys from its Biodiversity Crime Unit. 'Since 2009 there has been a drastic increase in the number of elephant ivory cases – 99 per cent of the ivory seized in the Western Cape since 2002.'



RICCARDO PREVATTONI, GRID-ARENDAL, WWW.GRIDA.NO/GRAPHICSLIB/DETAIL/LARGE-SCALE-IVORY-SEIZURES_6732

ON LEAVING AFRICA, SHIPPING ROUTES ARE often tortuous and difficult to trace. The 1 500 pieces of tusks intercepted in Malaysia last December, for instance, left the West African port of Lomé in Togo and transited in Algieras, Spain, before moving on to Malaysia.

‘All the large-scale ivory seizures seem to be heading towards China, whether they are confiscated there or not,’ says Milliken. Six or seven years ago the country intercepted a series of shipments and, since then, its law enforcement has actively targeted containers coming from Africa carrying descriptions of certain products. ‘I will say that China has really upped its law enforcement – and so the criminal syndicates have adapted,’ he explains. ‘So they might, say, try to get the container into Malaysia, change the documentation so it looks like the consignment is originating from Malaysia, and then send it on to China.’

The choice of countries serving as transits depends on conditions at the time. Milliken refers to a case in April 2011

when 707 ivory tusks were seized just inside Vietnam’s border with China, its destination. ‘Vietnamese authorities have got quite a bit better at controlling ivory flow through the country,’ says Simon Hedges from the Wildlife Conservation Society. ‘What seems to be happening as a result is that both Laos and Cambodia are becoming important transit routes. Thailand too, because ivory is like water – it will follow the path of least resistance.’ That would explain the emergence of Cambodia’s only deep-water port at Shihanoukville as a substitute trade route.

And although China is considered the worst protagonist, it is by no means the only end-user nation. ‘While countries like Malaysia are primary transit points, China and Thailand are the main markets since the demand in Japan has really fallen off,’ says Hedges. ‘There’s a tiny bit of end use for ivory in the Philippines, and Laos is selling increasing amounts of ivory to tourists.’ It remains to be seen what effect Thailand’s recent announcement of a ban on its domestic ivory trade will have on routes and supply.

Who are the ivory merchants?

‘You cannot assume that all the syndicates are in the Far East,’ says Ofir Drori. ‘Some of them are based here in Africa.’ In 2006 Hong Kong customs seized 603 tusks in a container from Cameroon. Ostensibly it was filled with timber, but a false compartment hid a mountain of ivory. The find prompted a high-level collaboration between authorities in Asia and Cameroon, and their subsequent investigation uncovered two more containers, similarly rigged, that had been used by the same syndicate to smuggle ivory. Tusks from 900 dead elephants could be transported at a time and, based on fragments discovered inside, the containers were regularly recycled.

The shipments were linked to the notorious Teng group, long suspected of being involved in various criminal activities. ‘These are people who used to export 600 tusks out of Douala in Cameroon to the Far East every two months,’ says Drori. ‘For two-and-a-half years they – Taiwanese nationals and one Filipino – used an import-export company operating out of a normal house in an upmarket residential suburb in Yaoundé as a front.’ In the 1980s, the same syndicate had operated in a similar way in Nigeria.

‘So here is a criminal syndicate that has been making around US\$4-million every two months for years, has been linked to money laundering and drug trafficking, and has been doing this since the 1980s. It’s the only ivory cartel in the world being prosecuted, but now its leaders have fled Cameroon and are on the run,’ says Drori.

He believes there are at least five more syndicates like the Tengs in Africa that have evaded authorities. ‘It reminds me of the arms trade. Imagine what it takes to gather 600 tusks every two months, and to have done this since the 1980s without any interruption. You need to employ hundreds of poachers and carefully coordinate them. You have to control dozens of corrupt colonels and magistrates to secure your business. You need a hierarchy inside your operations – one very strong person at the top who enforces this discipline, and [makes sure that] anyone who steals disappears. This is what the Mafia looks like.’ Drori’s frustration bubbles over. ‘So many seizures and still no heads of syndicates in jail. It is an amazing fact; it is an amazing failure.’

the ASIAN DILEMMA

In recent times the main ivory markets have been centred in the Far East: China for its sheer size and voracious appetite for the product; Thailand, where the market, for different reasons, is big too; and Japan, once a big league player, but now showing a diminishing demand. So what makes these markets tick?



ISTOCKPHOTO.COM/AKABE

THAILAND

Thailand has a poor track record when it comes to the ivory trade. 'Thailand has one of the largest unregulated ivory markets in the world and the largest in South-east Asia,' says Tom Milliken of TRAFFIC. Although this fact is well known in wildlife trade circles, it comes as a surprise to most people. 'While trade in Thailand is smaller than that in China, it still exerts huge influence,' continues Milliken. 'I'd say there is perhaps a 25 per cent/75 per cent split in trade between Thailand and China.' And given the size of the Chinese market, that's huge.

So why is Thailand such a global player in the illegal ivory trade? The country owes its dubious notoriety to its own legislation, which sanctions trade in ivory from domestic, working elephants, although not wild Asian elephants. This industry is wholly unregulated, so there are no checks into the origin of the ivory, which can legally be displayed and sold in Thai markets. The consequence? Perfect conditions for laundering African ivory into the market, which mixes it uncurbed with that from local elephants.

Thailand is also the largest tourist destination in the region, exposing many foreigners to ivory. 'In China the ivory is

consumed by Chinese, which means that it stays in China for the most part. But in Thailand most of the buyers are European, North American and Australian tourists,' says Milliken. 'With so many foreign visitors, a healthy percentage of the seizures made in the US, Europe and Australia are trinkets from Thailand.'

The most obvious way to curb the trade would be to regulate the industry, which would be difficult to enforce, or to shut it down completely. 'There's no provision within the legislation at the moment to discriminate against African ivory, so the whole system here needs better legislation and enforcement, DNA testing and legal protection of products from African elephants,' says Elisabeth McLellan of WWF. 'There are a lot of provisions that need to be in place to make a workable system in Thailand. And because there are so many [requirements], we are saying that a ban is the best way out of this situation.'

In 2002, the Elephant Trade Information System (ETIS) was established to track the illegal trade in ivory and other elephant products. According to its records, since its inception Thailand has been in the top handful of countries implicated in the illegal trade, so while



CITES

calling for a ban may seem like an over-reaction, repeated calls to tighten up the ivory trading system in the country have failed to produce results. 'For more than a decade there have been requests from CITES to address some of these issues and these have not been implemented to a necessary level,' continues McLellan.

At the opening of the CITES Conference of the Parties held in Bangkok last month, Thai Prime Minister Yingluck Shinawatra promised to end the nation's involvement in the trade. 'We will amend the

national legislation with the goal of putting an end to the ivory trade and to be in line with international norms,' she said. While her statement is potentially seen as a big step forward, it is not clear how it may affect domestic ivory trade in the country and, given its poor history of following up on such promises, when those changes might be implemented.

JAPAN

'Japan is a story of demand reduction,' says Milliken. 'In its heyday the Japanese market consumed 300 tonnes of ivory a year, easily. Now the dealers tell me they are using between five and 10 tonnes that are coming from legal stocks of ivory – and that they had lots of stock when the ban came in.' The ETIS data confirm that Japan isn't a major country of concern. 'For about a decade now we haven't seen any large-scale ivory seizures directed to Japan.'

According to wildlife trade experts Lucy Vigne and Esmond Martin, who surveyed the Japanese ivory markets in 2009, this dip in demand can be explained, in part, by the country's economy, which has been in recession since 1990. 'Fewer Japanese people are buying luxury ivory goods,' they point out. 'The Japanese are steadily becoming more westernised and ivory has therefore become less fashionable.'

In fact when Vigne and Martin carried out their survey, some 80 per cent of tusks were being used to produce signature stamps called *hankos*. But that has changed. 'The seals were used to sign everything from pay cheques and bank



MARTIN HARVEY

In Japan there is constant and stable demand for 'hard' or forest elephant ivory

transactions to documents for buying a car. But Japan has recently passed legislation making name seals obsolete. 'Now people use signatures,' says Milliken. These days, the most common material for hankos is horn from the Asian domestic water buffalo.

Other factors that have reduced demand include strict government regulations that, unlike those in China, act as a

deterrent to ivory carvers and vendors. And with the exception of antiques, the export of ivory is also prohibited in Japan in line with the 1990 CITES ban, which means foreign visitors may no longer buy these items to take home.

More recently, Tomoaki Nishihara from the Wildlife Conservation Society has looked at demand. 'In Japan there is constant and stable demand for "hard" or ▶



IFAW/D. WILLETTS

ABOVE Forest elephants. The dense tusks of these elusive pachyderms, which inhabit the rainforests of West and Central Africa, are in regular demand on the Japanese market.

LEFT A haul of ivory that was confiscated in Singapore and returned to Tsavo East National Park, Kenya.

OPPOSITE, ABOVE Thailand hosts one of the largest and most active ivory industries in the world. Its customers include Western tourists, especially those from the US, Europe and Australia.

OPPOSITE, BELOW Thai Prime Minister Yingluck Shinawatra has pledged to end her country's involvement in the ivory trade.



forest elephant ivory,' he says. One particular item that uses this so-called 'hard' ivory (the ivory of forest elephants is more dense than that of savanna elephants) is the *bachi*, the plectrum of a *shamisen*, a popular traditional Japanese musical instrument. A single *bachi* uses one large tusk – weighing 15-plus kilograms – to manufacture. 'This trend differs from that in China, which has a higher consumption of ivory but where no preference for soft or hard ivory exists,' Nishihara explains. And while there is no strong evidence that ivory from forest elephants is being smuggled into Japan, he is worried that the remaining stocks of hard ivory in the country will not be sufficient to meet demand. His research suggests that local dealers have limited knowledge of the domestic ivory trade control system and have not applied it. 'The Japanese ivory management system should be re-evaluated and improved, focusing on hard ivory stock management,' he warns.

CHINA

While Japan's economy might be in decline, China's continues to boom, and with it demand for ivory. 'Ivory is an ostentatious form of wealth,' says Peter Knights from WildAid. 'What you see here is a huge consumption of brands and luxury goods, and ivory is just another luxury item.'

In theory China has a regulated ivory market, but its rules only apply if the product is bought according to the country's

ivory product registration and certification system. Sales are restricted to Chinese nationals and the product may not be traded outside the country. The system was developed in 2004 to meet CITES conditions to purchase stockpiled ivory, and specifies that only government-approved ivory processing and retail outlets can engage in trade.

While this might work in theory, in practice the system is widely abused. According to IFAW's 2011 report 'Making a killing', which looked into the ivory trade in five coastal cities in China, there were nearly twice as many unlicensed ivory dealers as licensed ones. Of the

158 ivory carving and retail outlets surveyed, 101 had no licences. Illegal laundering of ivory is rife even in supposedly legal facilities too – 60 per cent of licensed retailers violated the system in some way to launder contraband ivory. Taken together, the unlicensed and non-compliant ivory facilities outnumbered legal ones nearly six to one.

The registration system is abused too. Every piece of ivory weighing more than 50 grams requires an identification card and yet IFAW found that 20 of 32 accredited retail shops did not have the required cards to match their ivory products. And in many licensed shops, vendors discouraged



IFAW/LISA HUA

customers from taking the identification cards that corresponded to the item purchased. 'When people sell a piece of ivory they hang on to the permit and use it as many times as they want. So effectively you can launder poached ivory through the legal system; it has all the appearance of being legal, but it's from an illegal source,' confirms Knights.

Ivory sales have surged too. The total number of ivory items auctioned on record in mainland China in 2011 was more than double that of the previous year. According to an auction newsletter, 11 100 ivory pieces were reportedly auctioned in 2011, with an estimated price of US\$95.4-million. That's 170 per cent more than the 2010 figure.

'In China economic growth is incredibly fast, and so education, awareness and general worldliness are not keeping pace,' says Knights. People there are simply not aware of the situation for elephants in Africa. Cutting demand will be key to saving the continent's elephants, a message that is conveyed by WildAid's mantra 'When the buying stops, the killing can too'.

'Our conclusion is that if you don't stop the market, whatever you do in Africa, you're not going to stop ivory leaking out,' Knights declares. 'We've recently done a survey of the three main cities in China (Beijing, Shanghai and Changzhou) [that demonstrated that] 50 per cent of the people are not aware there is any sort of elephant poaching problem in Africa, 50 per cent have no idea how to differentiate legal from illegal ivory, and 50 per cent think that the ivory comes from natural elephant mortality.'

But that's not to say things can't be turned around. 'A lot of stuff I think the rest of the world takes for granted in terms of ivory and elephant poaching has just not been publicised in China,' reckons Knights. 'I've heard some people saying "people have been educated and it hasn't worked", but they really haven't been educated. It hasn't been seen as an issue that pertains to China.'

How to get that message across, though, remains one of the principal challenges. One of the biggest successes to date has been IFAW's 'Mom, I got teeth' posters, which depict an elephant mother and her calf walking into the sunset across the African savanna. Displayed at airports and in subways in major cities across the country, the posters aim to raise consumer



IFAW/GUO TIELIU

awareness about the fact that every piece of ivory comes from a dead elephant – if you don't buy ivory, the animals won't die. In 2011, the campaign message was adopted into China's national college entrance exams, which were taken by nine million applicants.

WildAid has recently launched an ivory awareness campaign on the back of their successful shark-fin drive. They plan to get into consumers' faces. 'It doesn't matter what CITES does or what biologists say or what conservationists write. At the end of the day it's about the economies,' claims Knights. 'The only way to intercede is to inject yourself into the economies and that is basically why we are using advertising techniques. We sell conservation in the same way that Nike sells sneakers. We use celebrities, we use slick advertising, we try to get repetition in your face all the time and to brand conservation as a positive attribute and consumption as a negative one.'

Knights likens this to a new war, a contemporary battleground for conservation. 'Reports, biology, international conferences are the old world – it's obviously all important and it's great – but global economies are moving so quickly, especially in the case of China. Not only is the pace very fast, but the scale is vast,

ABOVE Animal-friendly souvenirs are available in China. These were found at the Panjiayuan Antiques Market in Beijing.

OPPOSITE, ABOVE On a billboard, popular basketball star Yao Ming exhorts his countrymen to support the war against ivory trading.

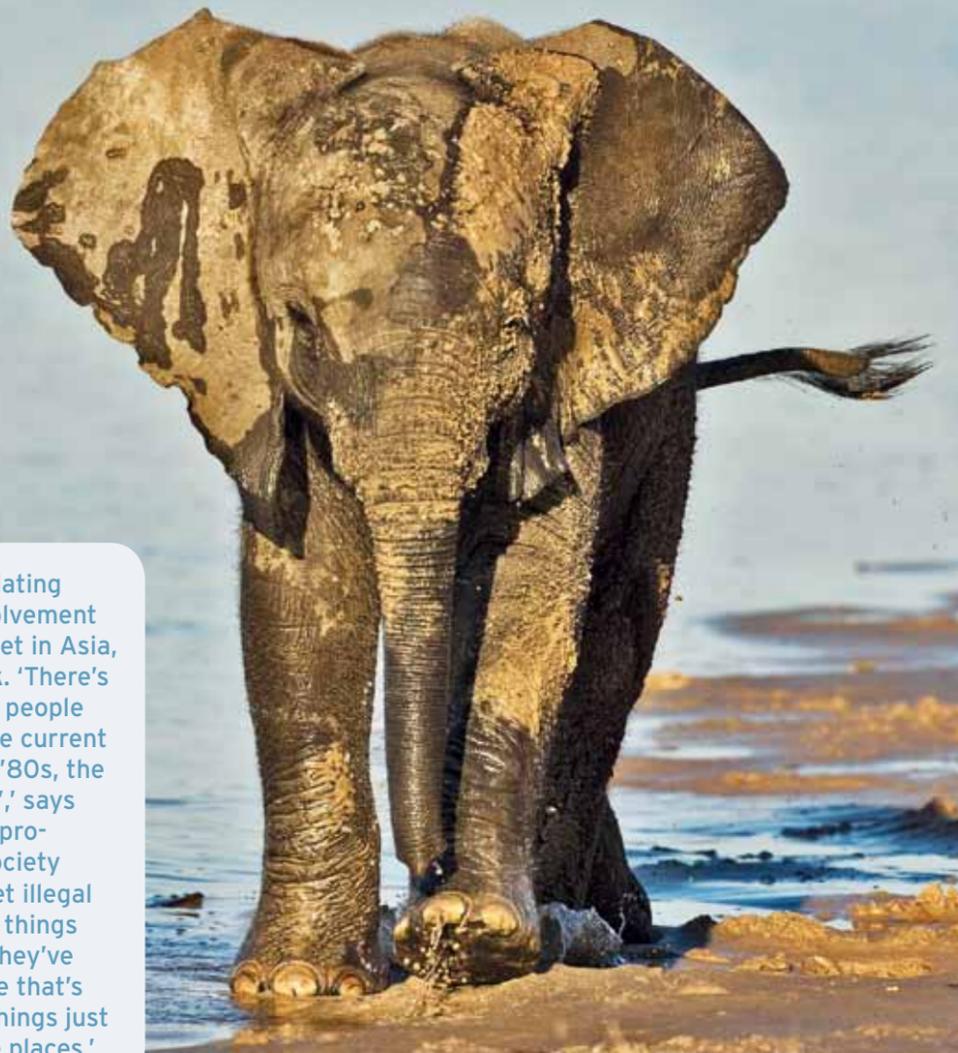
OPPOSITE, BELOW Ivory items on sale in China.

not like any other phenomena we've seen on the planet before.

'Anything that gets caught up in that maelstrom is going to be problematic. And so all we can do is try to keep pace by using the very techniques that are growing the economy – advertising space, video billboards – we're trying to utilise that to put a different perspective on things.'

Part of the change that China needs is a growing consciousness about consumerism. 'We've been lucky enough to get some of the most prominent Asian voices, such as (basketball star) Yao Ming and actor Jackie Chan, on our side to tell people: "Hang on a minute, this is not a good idea".' Short of an economic collapse in China, the two elements most likely to reduce demand to the benefit of Africa's elephants are an ivory registration and certification system that works and a change in consumer attitude towards ivory.

So, what are we going to do? With escalating poaching, a notable increase in the involvement of organised crime and a rampant market in Asia, principally China, the future looks bleak. 'There's a feeling among a very large number of people that we don't know what to do about the current crisis. Last time, back in the 1970s and '80s, the obvious thing to do was to "have a ban",' says Simon Hedges, who heads up the ivory programme of the Wildlife Conservation Society (WCS). 'Now of course we have a ban, yet illegal trade is escalating. A lot of the obvious things to do are no longer available, because they've already been done - though I'm not sure that's completely true,' he continues. 'Some things just need to be done better, or done in more places.'



RUDI VAN AARDE

the way **AHEAD**

FIGHTING FIRE WITH FIRE

Throughout Africa, protecting elephants is being given greater priority. More rangers are being put on the ground and many are better equipped. In countries such as Chad, Gabon, Cameroon, Botswana and Namibia, the army has been called in to supplement anti-poaching efforts. Gabon has reportedly more than quadrupled its park staff in the past three years and has increased its budget 15-fold to pursue poaching gangs, while Cameroon sent in 600 members of its special military forces, the Rapid Intervention Battalion, in the wake of events at Bouba N'Djida National Park. Botswana recently increased the

number of soldiers and police officers that patrol its protected areas, and the Namibian Defence Force has been enlisted to track poachers in the Caprivi region. Modern technologies, such as unmanned aerial vehicles (UAVs), have been touted as well (see *Africa Geographic*, February 2012).

All this, however, comes at a fiscal cost that African range states must pay, even though they are not the drivers behind increased trade. Bas Huijbregts, WWF's Head of Policy - Illegal Wildlife Trade in Central Africa, explains: 'We need to create that link between areas where ivory is poached, transit countries and demand countries. Hundreds of thousands of

euros must be invested in terms of ministries of defence, wildlife departments and intelligence communities, re-routed from the normal security tasks.' Surely such costs cannot be sustained as poaching intensifies?

COMBATING CORRUPTION

Corruption is a major challenge across the continent. Even when poachers and ivory traffickers are caught, bringing them to book is another issue that undermines elephant conservation. 'Imagine how dysfunctional a police force is when 85 per cent of its work will not produce any arrests because of corruption,' says Ofir Drori from

LAGA Wildlife Law Enforcement. 'These are the statistics from the countries we work in. This is how much of a threat it is.' Corruption is also pervasive in the Democratic of Congo (DRC) and Tanzania, where ivory poaching and trafficking are rife, despite the best attempts of authorities who are on the right side of the law.

Even if those involved in the trade are actually arrested, prosecuting them successfully is far from guaranteed. 'In 80 per cent of legal cases against wildlife traffickers in Central Africa, I can tell you who was trying to bribe whom - we even have recordings of judges and magistrates as they were trying to negotiate a bribe. Some of the people involved are public officials - we put an army captain behind bars, a police commissioner behind bars, a senior divisional officer [the highest local authority for a province] behind bars,' Drori continues. 'Denouncing corruption doesn't work. The answer is to fight it in real time and that's what we do.'

PUNISHMENTS TO FIT THE CRIME

The case of the Chinese nationals let off on a US\$340 fine for smuggling ivory through Kenya (see 'An appetite for destruction', page 34) highlights the need for Africa to treat wildlife crime more seriously. In too many countries, even if an ivory poacher or trader is arrested and tried, poaching is regarded as nothing more than a petty offence. In South Sudan lack of adequate legal recourse is a real problem. Gabriel Changson Chang, the country's wildlife, conservation and tourism minister, is quoted as saying 'We have apprehended so many poachers, caught red-handed ... but because of this legal vacuum it is very difficult to prosecute them'.

There is, however, a growing realisation of the seriousness of wildlife crimes, particularly when big business is involved. Kenya's new Wildlife Bill, currently under review, proposes much stiffer penalties for ivory-related convictions, and Uganda is currently amending its Wildlife Act so that poaching carries a minimum fine of US\$75 000 and a 10-year prison sentence. The Republic of Congo may implement similar measures. 'Owing to corruption levels, we are pushing very hard for a presidential decree to create a National Prosecuting Unit on endangered species, with a dedicated prosecutor empowered to arrest any perpetrators, regardless of their position,' says Leon Lamprecht, who works in the country for African Parks.

In the wake of its shocking poaching statistics this year, Gabon is also keen to increase penalties - new legislation will up the prison term for commercial ivory poaching to three years, 15 if organised crime is involved.

HEARTS & MINDS

While bolstering conservation services and bringing in the army are important, there are other potential solutions that could work on the ground. 'Low-tech solutions can be just as useful, as shown by the success of the community conservation movement in the north of Kenya and in Namibia,' reasons Iain Douglas-Hamilton of Save the Elephants. In Kenya, Ian Craig oversees the Northern Rangelands Trust and has first-hand experience of the benefits of community engagement. 'They're seeing better security for themselves, [and] money being generated from tourism going into education, water projects. Where these benefits are clean and clear to communities, elephants are being successfully protected by local people,' he says.

If value in activities other than poaching can be found, then the incentives to kill elephants are reduced. 'Commercial hunters are the proximate cause of elephant poaching in Central Africa and according to them, they would stop killing elephants if alternative sources of income were available,' says Dan Stiles in his IUCN report 'Elephant meat trade in Central Africa'. 'Special efforts should be made with these hunters to provide education, training and employment as an incentive to cease killing elephants.'

But, competing with steadily increasing ivory prices is difficult. 'During a recent visit to Mozambique, we were told that some individuals were leaving secure and relatively well-paid jobs in the tourism and hunting industry in Niassa [National Reserve] to work as ivory couriers - at best a few days per month - because the remuneration was so much better,' warns Mary Rice, executive director of the Environmental Investigation Agency (EIA).

COORDINATING COOPERATION

'Trafficking relies on porous borders, corrupt officials and strong networks of organised crime, all of which undermine our mutual security,' said then Secretary of State Hillary Clinton in 2012, as she called for a global strategy to dry up the demand for trafficked wildlife goods. 'Where criminal gangs can come and go at their total

discretion, we know that begins to provide safe havens for other sorts of threats to people and governments,' she added. 'This is a global challenge that spans continents and crosses oceans, and we need to address it with partnerships that are as robust and far-reaching as the criminal networks we seek to dismantle.'

But between the countries involved in the ivory trade, both in Africa and the Far East, these kinds of partnerships are tenuous at best. 'Obviously, there isn't enough cooperation, that's why the situation is so serious,' says Bill Clark, Wildlife Crime Officer for INTERPOL. 'We are aware of this and are taking substantive steps to enhance it.' In 2012 the organisation ran Operation Worthy, involving 14 countries across East, West and southern Africa and targeting criminal organisations involved in the illegal ivory trade. To date, it has resulted in more than 200 arrests and the seizure of nearly two tonnes of contraband ivory. It brought together some 300 officers from a range of agencies, including police, customs, environmental

OPPOSITE There is no magic solution to the poaching threat facing elephants; rather, more work done better needs to happen at multiple levels.

BELOW A member of an elite rapid response unit in Garamba National Park, the DRC. African countries are starting to beef up on-the-ground security in protected areas, but this means redirecting resources within budgets that are already stretched.



DAVID SANTIAGO GARCIA/AFRICAN PARKS

protection agencies, veterinary services, airport security, ministries of tourism and national prosecuting authorities.

In 2010 the International Consortium to Combat Wildlife Crime (ICWC), a collaboration between CITES, INTERPOL, the United Nations Office on Drugs and Crime, the World Bank and the World Customs Organization, was established with the aim of supporting wildlife law enforcement at both national and international levels. One concern it hopes to address is the dearth of law enforcement actions that follow large-scale ivory seizures.

Even at a national level, there is a need for more coordinated law enforcement efforts between appropriate organisations. Bas Huijbregts elaborates: 'With more arrests there is increasing information coming from poachers, so we're getting a picture of at least part of those networks. The problem is that it is fragmented because law enforcement agencies do not really collaborate. We've consulted with INTERPOL and, through TRAFFIC, we're pushing Central African governments to set up national coordination units comprising elements of different law enforcement agencies – parks, wildlife, police, NGOs, justice interior, customs, defence – to exchange data.'

FOLLOW THE FORENSICS

In 2001 Sam Wasser from the University of Washington, US, started a genetic map of Africa's elephant populations. Given that DNA can be extracted from tusks, it is now

possible to overlay DNA profiles from confiscated ivory – and to work out where it was poached. Among other successes, his laboratory's work has been crucial in tracing two large seizures back to their origins – the one mostly from Zambia, the other from Gabon. INTERPOL is acutely aware of the value genetic evidence provides for an investigation.

'I would like to see it used much more, but it requires that seizing agencies incorporate DNA analysis into their many routine procedures,' says Bill Clark. 'It is not absolutely simple – sampling must conform to an established protocol and with both scientific and forensic requirements. Ivory, even small samples, requires CITES applications and certificates, while analyses cost money. Also, Asia needs to work more closely with Africans when a seizure is made.'

Recently, Hong Kong expressed reluctance to hand over samples for forensic testing while criminal investigations are still open, even though the results could prove useful for prosecutions. It's symptomatic of a trend that frustrates Wasser. 'The problem is that most countries have been very resistant to turning over their seizures for DNA testing. When we do get samples to test, it is often a year or more after the event,' he says. 'It's been a war of attrition and many NGOs and other organisations have finally realised that more pressure needs to be applied to get these countries to do the right thing.' Wasser works closely with INTERPOL and NGOs that support DNA testing. 'It's time

for a change. DNA testing is one sure method of targeting the hotspots and directing enforcement to areas being targeted repeatedly. However, CITES has yet to seriously advocate this approach.'

CALL IN THE DOGS

The use of sniffer dogs to detect ivory in transit is becoming more widely recognised as a weapon in the arsenal against the trade. Since Kenya Wildlife Service (KWS) introduced sniffer dogs at Kenya's airports in 2009, they have netted more than eight tonnes of raw and worked ivory. Their use is starting to take off in southern Africa too. 'Our sniffer dogs are trained to detect both rhino horn and ivory, and are currently deployed at various cargo warehouses at OR Tambo International Airport in South Africa,' says Kirsty Brebner from the Endangered Wildlife Trust (EWT). 'We will soon be expanding to other potentially high-risk areas.' With the assistance of TRAFFIC, it looks as though Mozambique may shortly approve the use of sniffer dogs too, while cities such as Lusaka may also see their deployment.

SECURING THE STOCKPILES

Elephant range states keep stockpiles of their ivory. Tanzania, for instance, holds more than 100 tonnes, which it considered applying to CITES for permission to sell, while Zimbabwe's vaults contain 50 tonnes. These stockpiles comprise ivory retrieved from elephants that have died of natural causes or, in the case of countries like South Africa, through culling, as well as that seized from poachers. With permission from CITES, this ivory could be sold legally. (Anything confiscated from poachers is excluded – doing otherwise would open up potential laundering routes.)

Keeping piles of ivory is a risky business. 'Having a stockpile in any location is always a concern,' says the International Fund for Animal Welfare's (IFAW) Grace Ge Gabriel. 'Last year stockpiles were stolen in Tanzania and Zambia. It's important to maintain security, because employees were implicated in both the ivory thefts – an indication of the level of corruption in those countries.' Botswana and Mozambique also lost ivory out of supposedly secure facilities. In several Asian countries as well, including Thailand, the Philippines and Malaysia, confiscated ivory has gone missing.



IFAW/J. DECAUX

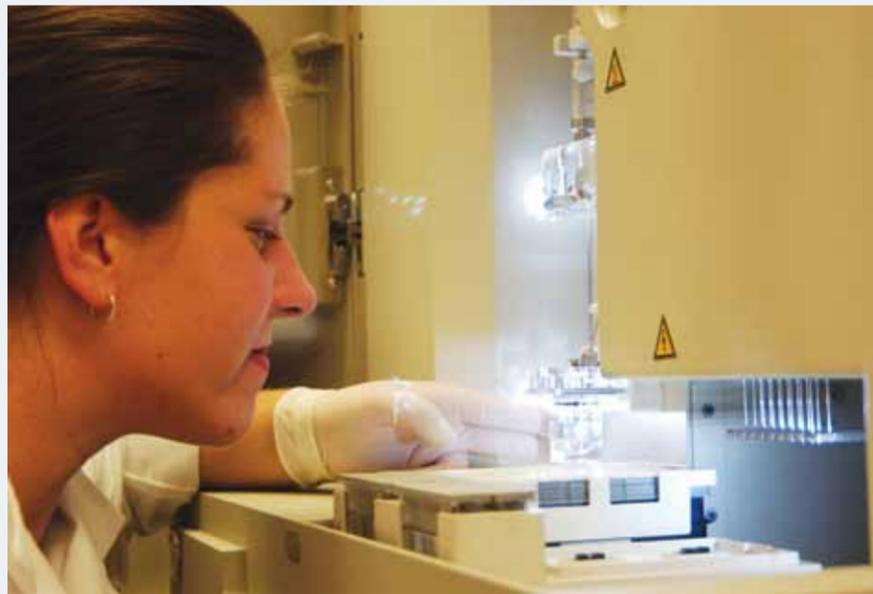


KRISTIAN SCHMIDT FOR WILDAID

ABOVE Consumer campaigns aimed at educating tourists and end-user countries are vital. There is an assumption that people who buy ivory know about the price that elephants – and other species – have paid for their trinkets, but this is by no means the case.

LEFT Elephant range states accumulate ivory stockpiles, mostly from animals that have died of natural causes. Security around these stores is a huge concern, given the levels of complicity and corruption involved in the ivory trade, and has contributed to the decision by a number of countries to burn the tusks.

OPPOSITE Sam Wasser's ivory DNA work has the potential to play an important role in the prosecution of trafficking cases, but incorporating sample collections, which must conform to a series of protocols, as well as obtaining the necessary CITES permits and paying for analyses, is a complex process.



IFAW/S. COOK

What to do? There seems to be no clear directive, though destroying the ivory is one option. Last year, both Kenya and Gabon burned government-held stockpiles. While neither country had any intention of applying to sell the ivory, at least now it can't fall into the wrong hands.

CONSUMER CAMPAIGNS

Essentially, if there were no demand for ivory, elephants would not be killed. Or, as Iain Douglas-Hamilton puts it, 'The root of the problem lies in excessive demand; attempts to save the elephants will fail unless it is tackled. Appetite for ivory can be changed, as it was in the West and in Japan, but such shifts take time, and awareness of what is happening to

elephants must rapidly be shared in ivory consumer countries in the East.' Getting that message across is something his organisation, Save the Elephants, has worked closely on, together with the charity WildAid.

Using celebrities in campaigns isn't a new idea, but it works. Take Yao Ming – former NBA basketball star, flag bearer for China at both the 2004 and 2008 Olympic Games and commentator on the games for Chinese television. In 2012 he travelled to Africa for the first time to learn about and raise awareness of the plight of Africa's elephants and rhinos.

The campaign and public service announcements received widespread coverage in China, assisted by Yao's popular

blog, read by more than a million people in the country. In it he writes, 'After witnessing how illegal ivory was obtained, I really was speechless ... it was a harrowing experience I never want to repeat, but something that everyone thinking of buying ivory should see – the wastefulness of these animals cruelly slaughtered just so that a small part of them could be used. Would anyone buy ivory if they had witnessed this?'

Douglas-Hamilton sums up what many of us feel. 'Yao's emotional response to living, breathing, playing elephants and to horrific faceless carcasses revealed the powerful commonality of human responses and awareness needed to save elephants.'